

# ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1

3

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|  |  |  |                          |   |             |
|--|--|--|--------------------------|---|-------------|
| 1. DATE OF ORDER<br>07/13/2012   |  | 2. CONTRACT NO. (If any)<br>EP-BPA-12-H-0029 |                          | 6. SHIP TO:   |             |
| 3. ORDER NO.   |  | 4. REQUISITION/REFERENCE NO.                 |                          | a. NAME OF CONSIGNEE<br>Indicated on call   |             |
| 5. ISSUING OFFICE (Address correspondence to)<br>HPOD<br>US Environmental Protection Agency<br>Ariel Rios Building<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 3803R<br>Washington DC 20460 |  |  |                          | b. STREET ADDRESS   |             |
|  |  |  |                          | c. CITY   | e. ZIP CODE |
| 7. TO:   |  |  |                          | f. SHIP VIA   |             |
| a. NAME OF CONTRACTOR<br>TETRA TECH, INC.  |  |  |                          | 8. TYPE OF ORDER  |             |
| b. COMPANY NAME  |  |  |                          | <input type="checkbox"/> a. PURCHASE<br><input type="checkbox"/> b. DELIVERY  |             |
| c. STREET ADDRESS<br>3475 E. FOOTHILL BOULEVARD  |  |  |                          | REFERENCE YOUR:<br><br>Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated. |             |
| d. CITY<br>PASADENA  |  | e. STATE<br>CA                               | f. ZIP CODE<br>911076024 |   |             |
| 9. ACCOUNTING AND APPROPRIATION DATA<br>Indicated on call  |  |  |                          | 10. REQUISITIONING OFFICE<br>OARM   |             |

|  |                              |                        |  |   |  |
|--|------------------------------|------------------------|--|---|--|
| 11. BUSINESS CLASSIFICATION (Check appropriate box(es))  |                              |                        |  | 12. F.O.B. POINT<br>Destination   |  |
| <input type="checkbox"/> a. SMALL<br><input checked="" type="checkbox"/> b. OTHER THAN SMALL<br><input type="checkbox"/> c. DISADVANTAGED<br><input type="checkbox"/> d. WOMEN-OWNED<br><input type="checkbox"/> e. HUBZone<br><input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED<br><input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB)<br><input type="checkbox"/> h. ECONOMICALLY DISADVANTAGED WOMEN-OWNED SMALL BUSINESS (EDWOSB) |                              |                        |  |   |  |
| 13. PLACE OF   |                              | 14. GOVERNMENT B/L NO. |  | 15. DELIVER TO F.O.B. POINT<br>ON OR BEFORE (Date)<br>Indicated on call |  |
| a. INSPECTION<br>Destination   | b. ACCEPTANCE<br>Destination |                        |  | 16. DISCOUNT TERMS<br>Indicated on call                                 |  |

## 17. SCHEDULE (See reverse for Rejections)

| ITEM NO.<br>(a)                     | SUPPLIES OR SERVICES<br>(b)  | QUANTITY ORDERED<br>(c)   | UNIT<br>(d) | UNIT PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY ACCEPTED<br>(g)  |                   |
|-------------------------------------|--|---------------------------|-------------|-------------------|---------------|---------------------------|-------------------|
|                                     | GSA Contract #: GS-23F-0112L<br>DUNS Number: (b)(4)<br>Blanket Purchase Agreement Terms:<br><br>Five Year Maximum Ordering Ceiling for this BPA from schedule 871 (all SINS): \$9,998,192<br>Continued ... |                           |             |                   |               |                           |                   |
| SEE BILLING INSTRUCTIONS ON REVERSE | 18. SHIPPING POINT   | 19. GROSS SHIPPING WEIGHT |             | 20. INVOICE NO.   |               | 17(h) TOTAL (Cont. pages) |                   |
|                                     | 21. MAIL INVOICE TO:   |                           |             |                   |               |                           |                   |
|                                     | a. NAME Indicated on call  |                           |             |                   |               | \$0.00                    |                   |
|                                     | b. STREET ADDRESS (or P.O. Box)  |                           |             |                   |               |                           |                   |
| c. CITY                             |  |                           |             |                   | d. STATE      | e. ZIP CODE               | 17(i) GRAND TOTAL |
|                                     |  |                           |             |                   |               |                           |                   |

22. UNITED STATES OF AMERICA BY (Signature)

23. NAME (Typed)  
Margaret Kline  
TITLE: CONTRACTING/ORDERING OFFICER

# ORDER FOR SUPPLIES OR SERVICES

## SCHEDULE - CONTINUATION

PAGE NO

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| DATE OF ORDER<br>07/13/2012 | CONTRACT NO.<br>EP-BPA-12-H-0029 | ORDER NO. |
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| ITEM NO.<br>(a) | SUPPLIES/SERVICES<br>(b)  | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|---|----------------------------|-------------|----------------------|---------------|-----------------------------|
|                 | <p>Per the GSA Federal Supply Schedule Contract Number GS-23F-0112L and Federal Acquisition Regulation (FAR) 8.405-3, Blanket Purchase Agreements (BPAs), the Contractor agrees to the following terms of a BPA EXCLUSIVELY WITH The United States Environmental Protection Agency (EPA):</p> <p>1. The contract services specified in Attachment 1: Statement of Work can be ordered under this BPA. Orders placed against this BPA shall be Time and Materials orders and are subject to the terms and conditions of the contract. Per the EPAAR clause 1552-232-73 "Payments-fixed-rate services contract" the 5% funds withholding on invoices will not be employed unless indicated on a task order.</p> <p>2. Delivery: Shall be specified on individual orders.</p> <p>3. This BPA does not obligate any funds.</p> <p>4. This BPA expires on July 15, 2017 or at the end of the contract period, whichever is earlier.</p> <p>5. The following office(s) is authorized to place orders under this BPA: Climate Change Division</p> <p>6. Orders will be placed against this BPA via electronic mail, FAX, paper or oral communications. Generally most orders will be placed using electronic mail (email).</p> <p>7. The terms and conditions included in this BPA apply to all purchases made under it. In the event of an inconsistency between the provisions of this BPA and the Contractor's invoice, the provisions of this BPA will take precedence.</p> <p>Invoicing Procedures:<br/>Continued ...</p> |                            |             |                      |               |                             |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00



**ORDER FOR SUPPLIES OR SERVICES**  
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| ITEM NO.<br>(a) | SUPPLIES/SERVICES<br>(b)   | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|--|----------------------------|-------------|----------------------|---------------|-----------------------------|
|                 | <p>Invoices shall be submitted via e-mail to RTPReceiving@epa.gov</p> <p>The naming scheme for invoice submission will be provided to you after a task order is awarded.</p> <p>For status of invoice payments, call the Financial Office's Customer Service at (919) 541-0616.</p> <p>The FedEx/commercial courier address for invoices:<br/>US EPA, RTP-Finance (Mail Drop D143-02)<br/>4930 Page Road<br/>Durham, NC 27703</p> <p>The following attachments are incorporated into this Blanket Purchase Agreement:</p> <p>Attachment 1: Statement of Work<br/>Attachment 2: Pricing Schedule<br/>Attachment 3: Ordering Procedures<br/>Attachment 4: Additional Provisions and Clauses</p> <p>Admin Office:<br/>HPOD<br/>US Environmental Protection Agency<br/>Ariel Rios Building<br/>1200 Pennsylvania Avenue, N. W.<br/>Mail Code: 3803R<br/>Washington DC 20460</p> <p>Period of Performance: 07/16/2012 to 07/15/2017</p> |                            |             |                      |               |                             |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00

**Attachment 1**  
**STATEMENT OF WORK**  
**AgSTAR**

**1.0. SCOPE**

**1.0.1. This scope of work is organized into the following sections:**

**Background**

This section briefly describes the program's background and the specific nature of the work required under these contracts.

**Areas of Work**

This section provides a description of the work areas covered under this SOW. These include:

1. Market, Policy, Legal, and Regulatory Assessment Support
2. Project Development and Implementation Support
3. Technical and Analytical Support
4. Technology Transfer Support
5. Outreach Support
6. Tracking Support
7. Methane Emission Inventories Support

**1.0.2. Statutory Authority and Reference Documents**

Clean Air Act Amendments of 1990, Section 603

Reports to Congress required by Clean Air Act:

- o *Anthropogenic Methane Emissions in the United States: Estimates for 1990*, EPA 430-R-93-003, April 1993
- o *Options for Reducing Methane Emissions Internationally, Volume I: Technological Options for Reducing Methane Emissions*, EPA 430-R-93-006, July 1993
- o *Opportunities to Reduce Anthropogenic Methane Emissions in the United States*, EPA 430-R-93-012, October 1993
- o *Options for Reducing Methane Emissions Internationally, Volume II: International Opportunities for Reducing Methane Emissions*, EPA 430-R-93-006B, October 1993
- o *US Climate Change Action Plan*, 1993

*Inventory of US Greenhouse Gas Emissions and Sinks (1990 – 2006)*. April 2008.

[http://www.epa.gov/climatechange/emissions/downloads/08\\_CR.pdf](http://www.epa.gov/climatechange/emissions/downloads/08_CR.pdf)

*2009 Draft US Greenhouse Inventory Report*.

<http://www.epa.gov/climatechange/emissions/usinventoryreport.html>

AgSTAR and Global Methane Initiative Agriculture Subcommittee Documents:

To obtain reference information and copies of AgSTAR and Global Methane Initiative reports and publications cited in this SOW, review the AgSTAR home page at [www.epa.gov/agstar](http://www.epa.gov/agstar) and the Global Methane Initiative Agriculture Sector webpage at [www.globalmethane.org/agriculture](http://www.globalmethane.org/agriculture)

Examples of relevant documents include:

- o Got Manure? Want energy? We can help!"
- o AgSTAR Handbook: A Manual for Developing Biogas Systems at Commercial Farms in the United States and FarmWare (software included in Handbook)
- o US Anaerobic Digester Status Report
- o Market Opportunities for Biogas Recovery Systems at US Livestock Facilities Report
- o Anaerobic Digestion Capital Costs for Dairy Farms
- o Industry Directory for On-Farm Biogas Recovery Systems
- o Federal Incentives for Developing Anaerobic Digester Systems
- o 2010 Update on Anaerobic Digester Systems
- o Anaerobic Digester Database
- o Protocol for Quantifying and Reporting the Performance of Anaerobic Digestion Systems for Livestock Manures
- o International Guidance for Quantifying and Reporting the Performance of Anaerobic Digestion Systems for Livestock Manures
- o Resource Assessment for Livestock and Agro-Industrial Wastes: various countries

## **1.1. BACKGROUND**

### **1.1.1. Greenhouse Gases, Climate Change and the Importance of Mitigation**

Changing the climate of the earth through the build-up of an array of radiatively active trace gases may have a number of adverse effects on the earth's environment, world economies, and world health. The Environmental Protection Agency's (EPA's) Climate Change Division (CCD) initiates programs to support commercialization of technologies and practices that will make systems more efficient, reduce emissions of these potent greenhouse gases, and thereby reduce the future risks of climate change.

Methane is a large contributor to potential global warming, second only to carbon dioxide. Methane is a potent greenhouse gas over 20 times more effective, per unit mass, at trapping heat in the atmosphere than carbon dioxide (CO<sub>2</sub>) over a one-hundred year period. Furthermore, methane's concentration in the atmosphere is changing at a rapid rate, more than doubling over the last two centuries and continuing to rise annually. These increases are largely due to increasing emissions from anthropogenic sources; more than 60 percent of total methane emissions are related to human activities.

### **1.1.2. Methane Mitigation and Recovery from Agriculture and Wastewater**

#### *Livestock Wastes*

Livestock waste management practices are estimated to contribute approximately five percent of global methane emissions from anthropogenic sources. US livestock manure management practices are estimated to emit about three million metric tons of methane and account for approximately ten percent of US methane emissions. Confined swine and dairy production facilities account for the majority of these emissions. Livestock and agro-industrial waste is also a source of pollution in surface and ground waters. Water pollution potential from these sources include: chemical and biological oxygen demand, nutrients, pathogens, and metals. These pollutants are found in various forms and concentration in the effluent and solids fractions of the waste stream. Water pollution events are of growing concern in areas where there are high concentrations of livestock production without adequate waste management planning or appropriate guidance on how pollution can be mitigated from these types of facilities. A large part of this problem occurs because livestock wastes are not land applied based on principles of nutrient management planning. Additionally, in many cases, wastes are allowed to be

discharged (directly or indirectly) to surface waters, which causes high nutrient and organic loadings in the affected watersheds.

Methane mitigation from livestock wastes is focused on biogas recovery systems. A biogas recovery system usually includes an anaerobic digester that captures and combusts biogas to produce electricity, heat, or hot water. Biogas recovery systems are effective at confined livestock facilities that handle manure as liquids and slurries, typically swine and dairy farms, as well as agro-industrial facilities that manage wastewaters with high organic content. Anaerobic digester technologies provide enhanced environmental and financial performance when compared to traditional waste management systems such as manure storages and lagoons. Anaerobic digesters are particularly effective in reducing methane emissions, but also provide other air and water pollution control opportunities due to the controlled retention of the effluent. Secondary and tertiary treatment methods, as well as nutrient management plans, are complements to the anaerobic digester that address air and water pollution concerns from the effluent.

Besides traditional anaerobic digestion of liquids/slurries with less than 15 percent total solids, "dry" digestion is also emerging as a treatment method for livestock wastes with total solids contents between 15 and 45 percent. Other emerging technologies include combustion, pyrolysis, and gasification. Combustion is the thermal conversion of organic matter with an oxidant (normally oxygen) to produce primarily carbon dioxide and water, when the oxidant is in stoichiometric excess. Pyrolysis is the thermal conversion (destruction) of organics in the absence of oxygen. In the biomass community, this commonly refers to lower temperature thermal processes producing liquids as the primary product, with a possibility of producing chemical and food byproducts. Gasification is the thermal conversion of organic materials at elevated temperature and reducing conditions to produce primarily permanent gases, with char, water, and condensibles as minor product. These technologies have the potential to increase the amount of methane that can be captured from traditional livestock waste management methods, but have not been widely commercialized in this subsector in the US.

#### *Enteric Fermentation*

Methane is also emitted from other agricultural sources. Methane is produced as part of the normal digestive process in animals. During digestion, microbes present in an animal's digestive system ferment food consumed by the animal. This microbial fermentation process is referred to as enteric fermentation and produces methane as a by-product, which can be exhaled or eructated by the animal. The amount of methane produced and excreted by an animal depends primarily on the animal's digestive system and the amount and type of feed it consumes. Because methane emissions represent an economic loss to the farmer, where feed is converted to methane rather than to product output, viable mitigation options can entail feed efficiency improvements to reduce methane emissions. Enteric methane emissions from livestock are estimated to be the second largest source of global agricultural non-CO<sub>2</sub>. In 2000, global enteric methane emissions accounted for 32 percent of global agricultural non-CO<sub>2</sub> emissions. In the United States, enteric methane accounts for 27 percent of agricultural non-CO<sub>2</sub> and less than 2 percent of all greenhouse gas emissions. Four major categories of mitigation options for enteric methane are (1) improvements to food conversion efficiency by increasing energy content and digestibility of feed, (2) increased animal productivity through the use of natural or synthetic compounds that enhance animal growth and/or lactation, (3) feed supplementation to combat nutrient deficiencies that prevent animals from optimally using the potential energy available in their feed, and (4) changes in herd management (e.g., use of intensive grazing). However, some of the mitigation options for enteric fermentation may actually increase net greenhouse gas emissions per animal but lead to an even larger increase in productivity, thereby decreasing emissions per unit of meat or milk produced.

### *Rice Cultivation*

Another major source of methane emissions from agriculture comes from rice cultivation. Most rice in Asia and the rest of the world is grown in flooded paddy fields. When fields are flooded, decomposition of organic material gradually depletes the oxygen present in the soil and floodwater, causing anaerobic conditions in the soil to develop. Anaerobic decomposition of soil organic matter by methanogenic bacteria generates methane. The methane is oxidized by aerobic methanogenic bacteria in the soil, leached away as dissolved methane in floodwater that percolates from the field, transported (unoxidized) from the soil to the atmosphere, and/or released from the soil via diffusion and bubbling through floodwaters. Therefore, the water management system under which the rice is grown is one of the most important factors affecting methane emissions. The amount of available carbon susceptible to decomposition is also critical. Some practices that reduce methane increase  $N_2O$  emissions since methane and  $N_2O$  are produced during different stages of soil redox potential fluctuations. Other practices that alter soil environmental conditions and therefore soil carbon- and nitrogen-driving processes include tillage, fertilization, manure amendments, changes in soil temperature and changes in crop yield and litter. Examples of methane mitigation options from rice cultivation include full midseason drainage, shallow flooding, off-season straw, ammonium sulfate additions, slow-release fertilizer application, and upland rice replacement of paddy rice management. Rice cultivation contributes to about 11 percent of global methane emissions.

### *Wastewater*

Worldwide, wastewater is the fifth largest source of anthropogenic methane emissions, contributing about nine percent of total global methane emissions in 2000. Global methane emissions from wastewater are expected to grow by approximately 20 percent between 2005 and 2020. Wastewater from domestic (sewage) and industrial sources is typically moved through a wastewater sewer system to a centralized wastewater management treatment center. Industries producing large volumes of wastewater with high levels of organic matter are likely to have significant methane emissions. They also tend to employ either shallow lagoons or settling ponds in their treatment of wastewater, which promotes anaerobic degradation. Besides the pulp and paper industries, typical industrial sub-sectors include palm oil, fruit processing, distillery, winery, sugar, slaughterhouse, and other similar high strength organic wastes.

At a wastewater treatment center, soluble organic material, suspended solids, pathogenic organisms, and chemical contaminants are removed from water using biological processes in which microorganisms consume the organic wastes. This results in the production of biomass sludge. The microorganisms can perform this biodegradation process in aerobic and anaerobic environments, of which the latter produces methane. Methane is produced by decay of organic material in wastewater as it decomposes in anaerobic environments. Methane emissions are determined by the amount of organic material produced and the extent to which this material is allowed to decompose under anaerobic conditions. Most developed countries use centralized aerobic wastewater treatment facilities with closed anaerobic sludge digester systems to process municipal and industrial wastewater. Employment of these practices increases methane generation but ultimately reduces baseline emissions. Wastewater production is directly related to a country's domestic population and industrial production of select industries. Population growth rates are traditionally higher in developing countries while more industrialized countries have recently tended to experience smaller increases in population over time. Along with population growth, wastewater trends have seen increasing amounts of organic material, which can result from various economic improvements.

Once municipal infrastructure is in place, there are two major approaches to reducing methane emissions from wastewater: (1) improved wastewater treatment practices that reduce the amount of organic waste anaerobically digested (through improved aeration and/or the

scaling back of the use of stagnant settling lagoons) and (2) anaerobic digestion with collection and flaring or cogeneration. The primary factor for determining methane emissions from the wastewater sector is the type of treatment system employed to manage the waste. Centralized, managed treatment facilities can control anaerobic environments and have a greater potential to capture and use methane. Because most centralized systems automatically either flare or capture and use methane for safety reasons, "add-on" abate options do not exist. As a result, potential emission reductions depend on large-scale structural changes in waste management practices. In contrast, smaller decentralized systems have less control over the share of aerobic versus anaerobic decomposition and have fewer feasible options for capturing methane.

### **1.1.2. US EPA Agricultural Methane Outreach Programs**

EPA works to reduce methane emissions from agricultural and wastewater sources domestically through the AgSTAR program and internationally through the Global Methane Initiative.

#### **AgSTAR**

AgSTAR is a voluntary outreach and partnership program designed to reduce livestock-generated methane emissions and achieve other air and water quality benefits by promoting commercially demonstrated technologies that treat and stabilize waste streams and combust off gases generated from anaerobic processes.

AgSTAR provides an array of information and tools designed to assist producers in the evaluation and implementation of biogas recovery systems, including:

- Conducting farm digester extension events and conferences
- Providing "How-To" project development tools and industry listings
- Conducting performance characterizations for digesters and conventional waste management systems
- Providing farm recognition for voluntary environmental initiatives
- Collaborating with federal and state renewable energy, agricultural, and environmental programs

AgSTAR has focused to date on traditional anaerobic digester technologies (covered lagoons, plug flow digesters and complete mix digesters) but may expand to promote other technologies that would decrease methane emissions as well. Additionally, the benefits and challenges of the different technologies compared to anaerobic digestion should always be considered.

#### **Global Methane Initiative**

The Global Methane Initiative (GMI) is a multi-lateral program designed to reduce methane emissions from agricultural, industrial, and domestic wastewaters, among other sectors. Methane reducing practices provide renewable energy, improve the environment, provide human health benefits, and enhance rural economic development. Development of environmentally sound practices in the agricultural sector will entail a number of activities, approaches, and strategies as these emissions are generated from an array of smaller decentralized facilities located in various climates and economies when compared to fewer but larger centralized sources such as landfills, coal mines, or natural gas systems. The primary global sources of methane emissions from agriculture are livestock enteric fermentation, livestock waste management, rice cultivation, and agricultural waste burning. Of these, livestock waste management offers the most viable, near-term opportunities for methane recovery and utilization, which is where most of the Initiative's agricultural activities are focused. GMI has been focused on livestock wastes and agro-industrial wastewaters since 2005. However, the areas of rice cultivation, enteric fermentation, and domestic wastewater have recently taken on greater significance. The Agriculture Sub-Committee oversees activities for the abatement and mitigation of methane



emissions from agricultural and agro-industrial sources. The newly established Wastewater Sub-Committee will take the lead on activities related to methane reductions from domestic wastewater; however some of this work continues in conjunction with agricultural sector activities since the mitigation technologies are often the same for wastewater regardless of source.

EPA's approach to international agricultural methane projects builds off of the experience, tools and resources developed in its domestic work, yet differs in a few important ways. Because technical, social and market barriers can be significant, and existing technical capacity may be little or non-existent, EPA's approach has focused on market assessment and capacity building, in addition to its technical services. There is a large focus on assessing the potential for methane emissions reductions from various agricultural and wastewater subsectors in each country, as well as the capacity for promoting biogas recovery projects. There is increased emphasis on technology demonstration, institutional strength, effective policies and transfer/replication strategies in the international work.

GMI activities are implemented in various countries with a wide range of project sites (farm, industry, or sewage plant types) and levels of economic development. Critical elements of this work are: (1) development of affordable, and in some cases, novel technologies, from indigenous resources (where possible) that result in broader replication of systems; (2) integration of technical and scientific components into national institutions and agencies responsible for agriculture, wastewater, energy, development, pollution control, and human health; and (3) expansion of critical materials, equipment and services into the global marketplace for methane mitigation and recovery technologies. The work provides a firm scientific and technical basis that characterizes process performance to identify waste management and pollution control strategies relative to costs. Moreover, it can provide core data on which project tools can be developed and national technical standards and policies can be based. A key to this work is being able to establish effective national and local public and private sector connections to expand deployment of appropriate technologies, practices, and policies.

Domestic wastewater sector activities will encompass both rural and urban wastewaters and associated practices. Industrial wastewater sectors vary in sophistication among the GMI partner countries. Rice cultivation and enteric fermentation projects are expected to follow a similar route of: concept to research and development to pilot to pre-commercial to commercial phases as the livestock and agro-industrial wastewater projects undergo.

For purposes of this Statement of Work, "methane mitigation and recovery projects" shall refer to projects reducing, capturing, and/or recovering biogas from the agricultural and wastewater subsectors. Approximately one-half to two-thirds of the work shall involve international activities.

## **1.2. AREAS OF WORK**

This Scope of Work entails a set of activities that are necessary to assist the Government in the continued development of methane mitigation and recovery projects in the identified subsectors, both domestically and internationally.

The contractor shall be prepared to conduct the work specified below in the US and internationally, if appropriate and authorized. The contractor shall furnish the necessary



personnel, material, equipment, services and facilities (except as otherwise specified) to perform the Areas of Work as follows:

#### **1.2.1. Market, Policy, Legal, and Regulatory Assessment Support**

##### *Market Evaluations*

The contractor shall assist the Government in developing market assessments of the potential for methane mitigation and recovery projects in select localities, regions, states and/or countries. This assistance may include evaluating the potential methane mitigation from various subsectors and related energy generation potential. The contractor will also assist the Government in developing strategies that identify specific financial and policy barriers to methane mitigation and recovery projects while proposing strategies and methods for addressing these barriers. These reports may also involve the evaluation of comparative risk of methane mitigation and recovery projects; evaluations of the benefits of methane mitigation and recovery projects; developing detailed estimates of potential future commodity supplies and demand as well as potential future prices (including carbon pricing) and potential future competition in various markets; assessments of carbon markets (both voluntary and compliance) in the US and internationally and their impact on methane mitigation and recovery projects both specifically and generally; evaluating potential markets for the methane recovered in these projects, including markets for electricity, heat, medium and high btu gas, alternative fuels, and chemical feedstocks; and evaluating potential markets for value-added products recovered from the solid and liquid effluent streams post-anaerobic digestion or other practices.

##### *Evaluations of Policy, Legal, and Regulatory Actions*

This assistance may also include conducting evaluations of US and international Global Methane Initiative government actions (past, present, and future) related to methane mitigation and recovery, including ownership issues, offset programs (voluntary and regulatory), environmental attributes, carbon markets, tax credits, environmental permits, etc. These evaluations may include detailed analysis of government and industry policy, tax policy, climate and air quality legislative actions, emissions regulations, statistics, utility and business practices, industry, market and government trends, legal settlements, technologies and other topics pertaining to methane mitigation and recovery project development, both domestically and internationally. This assistance may include developing, for EPA review and approval, outreach materials communicating the results of these analyses. These materials may include reports, technical documentation, and other written materials, and/or multimedia materials. These outreach materials may be targeted to any number of varying audiences, both internal and external to the Government.

#### **1.2.2. Project Development and Implementation Support**

The contractor shall assist the Government in preparing analyses and assessments of methane mitigation and recovery project opportunities, technologies, and end uses to facilitate EPA development and implementation of projects in the US and other GMI partner countries. Assessments shall encompass subsectors both with and without significant experience in methane mitigation, recovery, and use, and shall also consider commercially available as well as new and emerging technologies.

Specific elements of these evaluations and assessments may include the following:

##### *Gas recovery technology evaluations*

The contractor shall assess the applicability of technologies and techniques for methane mitigation and recovery at different operations; analyzing the potential to adapt existing technologies for application at specific sites; assessing the economics and the applicability of available technologies and techniques for maximizing the recovery of biogas for a variety of uses; and evaluating the full range of technical issues related to expanding the mitigation and/or recovery of methane from various operations at specific sites or specific regions and countries. The contractor shall also assess related components of the gas recovery technology, such as construction techniques, local resources available for such projects, or novel applications of existing technologies.

#### *End-use technology evaluations*

The contractor shall assess the applicability of existing and emerging technologies for the use of methane recovered in a variety of ways including thermal applications, electricity, fuel, etc.; and evaluating the full range of technical, policy, and market issues related to expanding the use of biogas at sites or in specific regions and countries.

#### *Biogas recovery system performance evaluations*

The contractor shall assess the performance of existing methane mitigation and recovery projects using applicable protocols, such as the *Protocol for Quantifying and Reporting the Performance of Anaerobic Digestion Systems for Livestock Manures* and the *International Guidance for Quantifying and Reporting the Performance of Anaerobic Digestion Systems for Livestock Manures*. The objective of these evaluations is to verify the performance and validity of technology claims related to environmental performance and cost. The contractor shall provide support to the overall evaluation including, but not limited to, experimental design, sampling method, data integrity, reporting reliability, problem resolution, analytic approach, and reporting validity in a standardized format. If new protocols are needed, the contractor shall assemble such protocols using a peer-review process.

#### *Emissions measurements evaluations*

The contractor shall evaluate the appropriate reduction calculation methodologies and carbon reduction credit methodologies, such as those promulgated by the IPCC that should be used by a particular site or type of project. The contractor shall assess the baseline emissions coming from a site and associated reductions and carbon credits that could be or are realized from the implementation of various mitigation technologies or techniques.

#### *Effluent management evaluations*

The contractor shall assess various secondary and tertiary treatment components that can be coupled with methane capture practices in order to further reduce negative impacts of nutrients on surface and ground water, such as various forms of nitrogen and phosphorus, and/or of air emissions of other gases and contaminants, such as nitrous oxide, ammonia, VOCs, hydrogen sulfide and NOx/SOx. Besides treatment, the contractor shall also evaluate the impact of the final uses of treated effluent whether land applied, sold as another product, etc. The contractor shall evaluate which practices are applicable for various sites according to technical and economic feasibility and the specific reductions that can be achieved on a project or wide-scale basis.

#### *Project identification*

The contractor shall identify potential opportunities for methane mitigation and recovery and projects in the US and GMI partner countries. These could include the following activities:

- o Identifying opportunities for specific projects in the US or other countries;
- o Updating the *Market Opportunities for Biogas Recovery Systems* in the US, including expansion to additional subsectors; and

- o Identifying project opportunities in GMI partner countries that could be showcased at events such as the Partnership Expo. This effort involves preliminary data collection, elementary technical and economic analyses, and preparation of graphical information displays.

#### *Development of feasibility assessments*

The contractor shall assist the Government in developing technical and/or economic feasibility assessments for potential methane mitigation and recovery projects at selected sites. This assistance may include evaluating site-specific conditions and identifying sites with strong potential to cost-effectively recover methane suitable for use. This assistance may also include developing criteria for comparing the feasibility of possible projects at a site and selecting the most promising project type.

Project assessments typically begin with the estimation of methane mitigation or recovery potential at the site and a preliminary technical assessment (e.g., use of FarmWare or international models). If the site is determined to be a candidate, activities that may be undertaken include identification of potential project development barriers (e.g., technical, policy, financial, legal), and undertaking an economic feasibility assessment to examine end-use options and financing scenarios. Finally, other technical assistance and outreach support (e.g., promotion) may be involved. Site visits may be necessary to conduct feasibility assessments.

Economic and financial feasibility assessments for potential methane mitigation and recovery projects at selected sites may include evaluating project economics and financing requirements, including developing detailed estimates of project costs (e.g., capital and labor) and potential revenues; developing economic and financial comparisons between potential project types at specific sites and defining and applying criteria for selecting the most promising projects; and evaluating the impact of such factors as potential trends in energy prices, carbon pricing, access to investment capital, interest rates, tax policies, and economic/financial risks on a potential project's feasibility.

### **1.2.3. Technical and Analytical Support**

The contractor shall assist the Government in providing technical support and analyses to promote methane mitigation and recovery in the US and internationally. This shall include, but is not limited to, support for feasibility assessment tools, financial model and other analytical tool development; technical analyses of biogas recovery systems; and development of sector-specific methodologies.

#### *Support for technical and economic feasibility models and other analytical tool development and maintenance*

EPA has developed software, FarmWare, to evaluate basic technical and economic analyses of US livestock biogas recovery projects. FarmWare is available on the AgSTAR website at: <http://www.epa.gov/agstar/tools/project-dev/farmware.html>. The contractor shall assist in the further development and refinement of this model or a similar model by providing technical and cost data to support development of new modules; updating cost and technology elements of the model as needed; and adapting the model to international conditions. The contractor shall recommend appropriate software for dissemination of the tool, such as Excel or a custom program. The contractor shall also provide EPA with the expertise to develop other analytical tools as appropriate. *Technical analyses related to methane mitigation, recovery, and utilization*

The contractor shall provide support for further development and updates for EPA's technical reports and efforts dealing with methane mitigation, recovery, and utilization. These efforts may include reviewing, updating, enhancing, or disseminating current EPA documents globally.

#### *Development of sector-specific methodologies*

The contractor shall assist in developing guidance for green house gas inventories (GHG) for government agencies or non-governmental organizations, or for corporate or facility level inventories as well as emissions or emissions reductions from specific projects. The contractor shall assist in the development of guidance on methodologies for estimating direct GHG emissions reductions from mitigation or energy recovery activities, as well as investigate, develop, review, or critique guidance or methods for GHG emissions monitoring, reporting, and verification.

#### *Development of international analyses and reports*

In support of the Global Methane Initiative, the contractor shall provide updated information about global methane projects, opportunities, developments, technologies, and legal/regulatory policies. The contractor shall assist in updating or developing new technical and informational reports.

### **1.2.4. Technology Transfer Support**

The contractor shall assist the Government by identifying cost-effective opportunities to abate and recover methane in the US and internationally by supporting the deployment of best management practices, as well as supporting the development of potential financing mechanisms to encourage investment. The work to facilitate deployment and adoption of appropriate technologies and practices should support the long-term goal of developing the necessary technical, agronomic, policy, and financing elements needed to sustain market development in specific countries. Possible activities include technology demonstration projects, workshops, training, study tours, and support for international clearinghouses, as described below:

#### *Technology demonstration projects*

The contractor shall provide technical and analytical support for technology demonstration projects in the US and internationally. These projects may involve demonstrations of any or all parts of a methane mitigation or recovery system, treatment and final use or disposal of gas and liquid and solid effluent portions. This support may include site-specific engineering design, fabrication, installation and start-up assistance, trouble-shooting, operator training, data collection and monitoring, research, data analysis, and development of technical papers. Demonstration projects may require the purchase and installation of equipment, either for system operation, such as tanks or flares, or for evaluation, such as gas meters. The contractor shall focus on technologies that are affordable, replicable, serviceable, and appropriate for the sub-sector and climate targeted.

#### *Technical Workshops*

Rural agricultural development is a long-term, complicated objective that requires a tailored extension and educational component. A typical extension event shall consist of, but is not limited to the following topic areas: technology performance, project development, financing programs, technical assistance, policy, and science. The contractor shall organize and conduct extension or other educational workshops (in any of the identified subsectors) as needed on

specific topics to share technical information and experiences related to methane mitigation and recovery project development for US or international audiences consisting of members of the livestock industry, renewable energy organizations and businesses, pollution control organizations, and/or others. Elements of this activity include development of an agenda, identification of appropriate speakers / presenters, preparation and delivery of presentations, and logistical elements associated with implementing the workshop (site arrangements, registration, materials, proceedings, etc.).

#### *Technical Training*

The contractor shall organize and conduct training sessions for US or international delegations. These training sessions may include classroom sessions as well as visits to one or more sites, as appropriate. Elements of this activity include development of an itinerary/agenda, identification of appropriate persons to conduct the training, preparation and delivery of the training, and logistical elements associated with implementing the training (arranging any transportation needed during the training, such as buses, and other travel logistics (but not funding individual travel to and from the training), site arrangements, materials, etc.).

### **1.2.5. Outreach Support**

The contractor shall assist the Government in providing outreach support for activities in the US and internationally to a diverse audience comprised of executive, technical, academic and other individuals important in the development of methane mitigation and recovery projects. The contractor shall be prepared to undertake outreach activities for the program including development of outreach materials, program summaries and fact sheets, public education materials, and technical outreach materials targeted at specific industry and interest groups. The contractor shall be prepared to use a variety of media in disseminating outreach materials. Examples of this support include:

#### *Contributing content*

The contractor shall develop articles, ideas, graphics, and analyses and other content to program updates such as the *AgSTAR Digest* (a newsletter published quarterly that is emailed to AgSTAR listserv contacts) or *Methane International*; email updates; and material for the AgSTAR and GMI websites. ([www.epa.gov/agstar](http://www.epa.gov/agstar)) ([www.globalmethane.org](http://www.globalmethane.org)). The EPA COR will provide the listserv.

#### *Updates*

Keep AgSTAR and GMI outreach documents and resources current and up to date based on recent developments.

#### *Quick turn-around and in-depth analyses*

On an as-needed basis, respond to public inquiries by conducting research on government and industry policy, statistics, business practice, industry, market and government trends and other topics pertaining to expanding methane mitigation and recovery practices. This assistance may include developing outreach materials communicating the results of these analyses in the form of reports, technical documentation, and other written materials. As appropriate, this assistance may entail quick response or it may involve more detailed research and analyses.

#### *Illustrative Administrative Activities*

The Contractor shall coordinate with the COR to support AgSTAR and the Agriculture Subcommittee and Wastewater Task Force of the Global Methane Initiative. Illustrative activities



could include contributing to the development or updates of the Agriculture Subcommittee Action Plan, working with the Agriculture Subcommittee or Wastewater Task Force meetings, creation and management of an electronic framework for emissions tracking among the member countries managing the AgSTAR list serv, managing the Global Methane Initiative Agriculture Project Network contact list, and supporting the activities of the Global Methane Initiative Secretariat and Administrative Support Group. The EPA COR will ensure that the list serv is provided to each BPA holder. Member countries can be found at (member countries can be found at <http://www.globalmethane.org/partners/index.aspx>)

#### **1.2.6. Tracking Support**

The contractor shall track data related to current, closed, and potential methane mitigation and recovery projects, both domestically and internationally. This data may include items such as site characteristics, volume of feedstock(s), technology type, contact information for owners/operators/developers/utilities, benefits achieved, costs incurred, as well as Government or Partner activity data, such as services/technical support provided and related correspondence. The contractor shall respond to a variety of diverse data requests and queries to be generated from the AgSTAR and GMI agricultural project databases that may include queries such as site-specific information, technology applications, number and types of electricity or other use projects. If needed, the contractor shall establish new databases to handle expanded subsectors or additional technology types.

#### **1.2.7. Methane Emission Inventories Support**

The contractor shall prepare methane emission inventories from facilities in the identified subsectors in the US and internationally.

##### *US Methane Inventories*

The contractor shall contribute to the preparation, publication, and submittal of the annual *US Inventory of Greenhouse Gas Emissions and Sinks* as well as the periodic preparation, publication, and submittal of the US National Communication under the U.N. Framework Convention on Climate Change. These efforts may include research, compilation and interpretation of emission data to develop a credible and verifiable emission inventory. See: <http://www.epa.gov/climatechange/emissions/usinventoryreport.html>

##### *International Methane Inventory*

The contractor shall actively participate in and contribute to the development and implementation of industry-specific best practices for preparing emission methodologies through the Intergovernmental Panel on Climate Change. The contractor may be called upon to support development of white papers, and to participate in workshops and review panels. See: <http://www.epa.gov/climatechange/emissions/globalghg.html>

#### **1.3 Other Information**

The contractor should have demonstrated commercial-scale experience in the field to assist in the work described in this SOW. The scale of digester systems involved ranges from small, household systems to large agro-industrial plants in climates varying around the world. The level

of digester technology varies from low-tech fixed concrete dome digesters to high-tech induced blanket reactors.

**Foreign language speaking capabilities** and local office capacity in Global Methane Initiative (GMI) countries (found at [www.globalmethane.org/partners/index.aspx](http://www.globalmethane.org/partners/index.aspx)) is desirable.

A small business task order will be awarded separately. The small business vendor will be responsible for some conference planning/events for the resulting BPA awardees under this RFQ. Your technical plan must demonstrate how you will communicate and coordinate with the small business vendor when a conference or workshop is required. The small business vendor will provide the administrative support such as planning and coordination of the event. Technical content for workshops, training or conferences such as speakers, topics, etc remain the responsibility of the BPA contractors.



## COMPETITIVE TASK ORDER PROCEDURES

(A) One or more Task Orders (TOs) may be issued during the performance of this BPA. In accordance with the FAR 8.405-3(c)(2), Ordering from BPA's, the Contracting Officer will give each awardee a fair opportunity to be considered for each order. Procedures and selection factors to be considered for each TO that provides fair opportunity are shown below.

(B) Procedures providing a fair opportunity for consideration on each requirement.

(i) Orders at or below the micro-purchase threshold. The ordering activity may place orders at or below the micro-purchase threshold with any BPA holder that can meet the agency needs. The ordering activity should attempt to distribute any such orders among the BPA holders.

(ii) Orders exceeding the micro-purchase threshold but not exceeding the simplified acquisition threshold.

(a) The ordering activity must provide each multiple-award BPA holder a fair opportunity to be considered for each order exceeding the micro-purchase threshold, but not exceeding the simplified acquisition threshold unless one of the exceptions at 8.405-6(a)(1)(i) applies.

(b) The ordering activity need not contact each of the multiple-award BPA holders before placing an order if information is available to ensure that each BPA holder is provided a fair opportunity to be considered for each order.

(c) The ordering activity contracting officer shall document the circumstances when restricting consideration to less than all multiple-award BPA holders offering the required supplies and services.

(iii) Orders exceeding the simplified acquisition threshold.

(a) The ordering activity shall place an order in accordance with paragraphs (1), (2) and (3) of this paragraph, unless the requirement is waived on the basis of a justification that is prepared and approved in accordance with 8.405-6. The ordering activity shall—

(1) Provide an RFQ to all BPA holders offering the required supplies or services under the multiple-award BPAs, to include a description of the supplies to be delivered or the services to be performed and the basis upon which the selection will be made;

(2) Afford all BPA holders responding to the RFQ an opportunity to submit a quote; and

(3) Fairly consider all responses received and make award in accordance with the selection procedures.

(C) **Task Order Ordering Process for Selected Multi-awardees.**

- (1) The CO will issue a TO request to those awardees selected for consideration. The request will include a Statement of Work (SOW) that includes a detailed description of work to be accomplished, a listing of the deliverables, the period of performance (POP) of the task order, and additional information as appropriate. Note: the Task Order POP may be for greater than one year, or may include additional option periods if the need is on-going. The request will also include specific instructions for the submission of responses (i.e., oral or written, distribution instructions), the selection criteria factors and other information deemed appropriate.
- (2) Awardees will generally be allowed between 7 and 14 calendar days to prepare and submit responses. However, more or less time may be necessary based on the requirements. The due date shall be set forth in each Task Order request. Awardee(s) may "NO BID" at their own discretion. **It is recommended that "NO BIDS" include a brief explanation for non participation.**
- (3) **Bid and Proposal (B&P) Costs.** B&P costs of preparing a TO estimates will not be reimbursed as a direct cost to this contract.
- (4) **Technical Approach.** The Task Order request will state whether an oral presentation is required in addition to or instead of the written technical response. Both oral and written technical responses shall address, at a minimum:

Technical Approach

Lead Personnel

Risks

Period of Performance (if not specified by the Government)

Teaming Arrangement to include subcontracting

Past Performance

The technical information should be brief, i.e., 3-5 single sided pages stating compliance or exception to TO requirements, risks, assumptions, and conflict of interest issues. Responses shall not merely restate TO SOW requirements.

- (5) **Price/Cost Estimates.** A written cost estimate is always required. This area of the response shall include detailed cost/price amounts of all resources required to accomplish the task, (i.e. man-hours, equipment, travel, etc.). At a minimum, the following data will be provided:

- (i) Identify labor categories in accordance with BPA schedule and the number of hours required for performance of the task. The offeror must provide (with complete prices) cost estimates which include the identification of clerical labor, and ODC cost elements and identify any Government Furnished Property (GFP) and/or GFI required (if any) for task performance.

(ii) **Other Relevant Information.** Must be written and must address other relevant information as required by the contract or requested by the TO request.

- (6) If necessary, during the evaluation of responses, the Government may contact an awardee with questions concerning their response. However, such contact does not constitute discussion as defined by FAR 15.306.

(D) **Selection Criteria for Awarding Task Orders.** Upon receipt of responses, the Government will evaluate the responses in accordance with the selection criteria. The Government's award decision will be based, at a minimum, on selection criteria that addresses past performance, technical/management approach and price/cost. Individual task order selection criteria may include other factor(s) relevant to the particular task order. The order of importance for the factors may be identified on each individual request.

(E) **Process for Awards under Other than Fair Opportunity to be Considered Provisions.** The process for excepted requirements is the same as paragraph "D" above except that there will be no selection criteria;

(F) **Unauthorized Work.** The Contractor is not authorized to commence task performance prior to issuance of a signed TO or verbal approval provided by the CO and are not authorized to exceed obligated amounts of funding.

(G) **Task Funding Restriction.** No unfunded tasks are allowed.

(H) **Task Order Issuance.** TOs will be issued via electronic commerce by the CO.

(I) **Ombudsman Description** Ms. Susan Moroni is the Competition Advocate and Ombudsman for GSA awarded task orders/BPAs issued by the Office of Administrative Management (OAM). Questions/concerns/complaints may be emailed to Ms. Moroni at [Moroni.susan@epa.gov](mailto:Moroni.susan@epa.gov).

The following clauses will be incorporated into the resultant Order, as well as all clauses in the vendor's GSA schedule contract.

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**1. EP 52.000-000 (NOV 1994) DEVIATION NOTICE REGARDING PROHIBITED CONTRACTOR ACTIVITIES ON ENVIRONMENTAL PROTECTION AGENCY (EPA) CONTRACTS**

The Contractor shall not perform any of the following activities on behalf of EPA in connection with this blanket purchase agreement:

1. The actual preparation of Congressional testimony.
2. The interviewing or hiring of individuals for employment at EPA.
3. Developing and/or writing of Position Descriptions and Performance Standards.
4. The actual determination of Agency policy.
5. Participating as a voting member on a Performance Evaluation Board; participating in and/or attending Award Fee meetings.
6. Preparing Award Fee Letters, even under typing services contracts.
7. The actual preparation of Award Fee Plans.
8. The preparation of documents on EPA Letterhead other than routine administrative correspondence.
9. Reviewing vouchers and invoices for the purposes of determining whether costs, hours, and work performed are reasonable.
10. The preparation of Statements of Work, Task Orders, Technical Direction Documents, Delivery Orders, or any other work issuance document under a contract or blanket purchase agreement that the contractor is performing or may perform. Such a work issuance document, prepared by an EPA prime contractor under an EPA prime contract or blanket purchase agreement for its subcontractor, is exempt from this prohibition.
11. The actual preparation of responses to audit reports from the Inspector General, General Accounting Office, or other auditing entities.
12. Preparing responses to Congressional correspondence.
13. The actual preparation of responses to Freedom of Information Act requests, other than routine, non-judgmental correspondence.
14. Any contract or blanket purchase agreement which authorizes a contractor to represent itself as EPA to outside parties.
15. Conducting administrative hearings.

16. Reviewing findings concerning the eligibility of EPA employees for security clearances.

17. The actual preparation of an office's official budget request.

**2. 1552.203-71 (AUG 2000) DISPLAY OF EPA OFFICE OF INSPECTOR GENERAL HOTLINE POSTER**

- (a) For EPA contracts or blanket purchase agreements valued at \$1,000,000 or more including all options, the Contractor shall prominently display EPA Office of Inspector General Hotline posters in Contractor facilities where the work is performed under the contract or blanket purchase agreement.
- (b) Office of Inspector General hotline posters may be obtained from the EPA Office of Inspector General, ATTN: OIG Hotline (2443), 1200 Pennsylvania Avenue, NW, Washington, DC 20460, or by calling (202) 260-5113.
- (c) The Contractor need not comply with paragraph (a) of this clause if it has established a mechanism, such as a hotline, by which employees may report suspected instances of improper conduct, and provided instructions that encourage employees to make such reports.

**3. 1552.208-70 (OCT 2000) PRINTING**

(a) *Definitions.*

**"Printing"** is the process of composition, plate making, presswork, binding and microform; or the end items produced by such processes and equipment. Printing services include newsletter production and periodicals which are prohibited under EPA contracts and blanket purchase agreements.

**"Composition"** applies to the setting of type by hot-metal casting, photo typesetting, or electronic character generating devices for the purpose of producing camera copy, negatives, a plate or image to be used in the production of printing or microform.

**"Camera copy"** (or "camera-ready copy") is a final document suitable for printing/duplication.

**"Desktop Publishing"** is a method of composition using computers with the final output or generation of camera copy done by a color inkjet or color laser printer. This is not considered "printing." However, if the output from desktop publishing is being sent to a typesetting device (i.e., Linotronic) with camera copy being produced in either paper or negative format, these services are considered "printing".

**"Microform"** is any product produced in a miniaturized image format, for mass or general distribution and as a substitute for conventionally printed material. Microform services are classified as printing services and includes microfiche and microfilm. The contractor may make up to two sets of microform files for archival purposes at the end of the blanket purchase agreement period of performance.

**"Duplication"** means the making of copies on photocopy machines employing electrostatic, thermal, or other processes without using an intermediary such as a negative or plate.

**"Requirement"** means an individual photocopying task. (There may be multiple requirements under a Work Assignment or Task Order. Each requirement would be subject to the photocopying limitation of 5,000 copies of one page or 25,000 copies of multiple pages in the aggregate per requirement).

(b) *Prohibition.*

The contractor shall not engage in, nor subcontract for, any printing in connection with the performance of work under this blanket purchase agreement. Duplication of more than 5,000 copies of one page or more than 25,000 copies of multiple pages in the aggregate per requirement constitutes printing. The intent of the limitation is not to allow the duplication of final documents for use by the Agency. In compliance with EPA Order 2200.4a, EPA Publication Review Procedure, the Office of Communications, Education, and Media Relations is responsible for the review of materials generated under a contract or blanket purchase agreement published or issued by the Agency under a contract or blanket purchase agreement intended for release to the public.

(c) *Affirmative Requirements.*

- (1) Unless otherwise directed by the contracting officer, the contractor shall use double-sided copying to produce any progress report, draft report or final report.
- (2) Unless otherwise directed by the contracting officer, the contractor shall use recycled paper for reports delivered to the Agency which meet the minimum content standards for paper and paper products as set forth in EPA's Web site for the Comprehensive Procurement Guidelines at: <http://www.epa.gov/cpg/>.

(d) *Permitted Contractor Activities.*

- (1) The prohibitions contained in paragraph (b) do not preclude writing, editing, or preparing manuscript copy, or preparing related illustrative material to a final document (camera-ready copy) using desktop publishing.
- (2) The contractor may perform a requirement involving the duplication of less than 5,000 copies of only one page, or less than 25,000 copies of multiple pages in the aggregate, using one color (black), so long as such pages do not exceed the maximum image size of 10 $\frac{3}{4}$  by 14 $\frac{1}{4}$  inches, or 11 by 17 paper stock. Duplication services below these thresholds are not considered printing. If performance of the blanket purchase agreement will require duplication in excess of these limits, contractors must immediately notify the contracting officer in writing. EPA may then seek a waiver from the Joint Committee on Printing, U. S. Congress. The intent of the limitation is to allow "incidental" duplication (drafts, proofs) under a contract or blanket purchase agreement. The intent of the limitation is not to allow the duplication of copies of final documents for use by the Agency or as distributed as instructed by the Agency.
- (3) The contractor may perform a requirement involving the multi-color duplication of no more than 100 pages in the aggregate using color copier technology, so



long as such pages do not exceed the maximum image size of 10\3/4\ by 14\1/4\ inches, or 11 by 17 paper stock. Duplication services below these thresholds are not considered printing. If performance of the blanket purchase agreement will require duplication in excess of these limits, contractors must immediately notify the contracting officer in writing. EPA may then seek a waiver from the Joint Committee on Printing, U. S. Congress.

- (4) The contractor may perform the duplication of no more than a total of 100 diskettes or CD-ROM's. Duplication services below these thresholds are not considered printing. If performance of the blanket purchase agreement will require duplication in excess of these limits, contractors must immediately notify the contracting officer in writing. EPA may then seek a waiver from the Joint Committee on Printing, U. S. Congress.

(e) *Violations.*

The contractor may not engage in, nor subcontract for, any printing in connection with the performance of work under the blanket purchase agreement. The cost of any printing services in violation of this clause will be disallowed, or not accepted by the Government.

(f) *Flowdown Provision.*

The contractor shall include in each subcontract which may involve a requirement for any printing/duplicating/copying a provision substantially the same as this clause.

**4. 1552.209-71 (MAY 1994) ALTERNATE I ORGANIZATIONAL CONFLICTS OF INTEREST**

- (a) The Contractor warrants that, to the best of the Contractor's knowledge and belief, there are no relevant facts or circumstances which could give rise to an organizational conflict of interest, as defined in FAR Subpart 9.5, or that the Contractor has disclosed all such relevant information.
- (b) Prior to commencement of any work, the Contractor agrees to notify the Contracting Officer immediately that, to the best of its knowledge and belief, no actual or potential conflict of interest exists or to identify to the Contracting Officer any actual or potential conflict of interest the firm may have. In emergency situations, however, work may begin but notification shall be made within five (5) working days.
- (c) The Contractor agrees that if an actual or potential organizational conflict of interest is identified during performance, the Contractor will immediately make a full disclosure in writing to the Contracting Officer. This disclosure shall include a description of actions which the Contractor has taken or proposes to take, after consultation with the Contracting Officer, to avoid, mitigate, or neutralize the actual or potential conflict of interest. The Contractor shall continue performance until notified by the Contracting Officer of any contrary action to be taken.
- (d) Remedies - The EPA may terminate this blanket purchase agreement for convenience, in whole or in part, if it deems such termination necessary to avoid an organizational conflict of interest. If the Contractor was aware of a potential organizational conflict of interest prior to award or discovered an actual or potential conflict after award and did

not disclose it or misrepresented relevant information to the Contracting Officer, the Government may terminate the blanket purchase agreement for default, debar the Contractor from Government contracting, or pursue such other remedies as may be permitted by law or this blanket purchase agreement.

- (e) The Contractor agrees to insert in each subcontract or consultant agreement placed hereunder provisions which shall conform substantially to the language of this clause, including this paragraph, unless otherwise authorized by the Contracting Officer.

## **5. 1552.209-76 (May 2010) DEVIATION Contractor Performance Information**

(a) In accordance with Federal Acquisition Regulation (FAR) Subpart 42.15 and EPAAR Deviation 1542.15, past performance evaluations shall be prepared and submitted electronically to the Past Performance Information Retrieval System (PPIRS). The process for submitting evaluation reports to PPIRS shall be through use of the Contractor Performance Assessment Reporting System (CPARS) which has connectivity with PPIRS.

Using CPARS, EPA shall evaluate contractor performance using the following evaluation factors as applicable: Technical (Quality of Product), Product Performance, Systems Engineering, Software Engineering, Logistic Support/Sustainment, Product Assurance, Other Technical Performance, Schedule, Cost Control (Not Applicable for Firm-Fixed Price or Firm-Fixed Price with Economic Price Adjustment), Management, Management Responsiveness, Subcontract Management, Program Management and Other Management, Other Areas, and Utilization of Small Business.

Each evaluation factor shall be rated in accordance with a five scale rating system: Red/Unsatisfactory, Yellow/Marginal, Green/Satisfactory, Purple/Very Good, and Dark Blue/Exceptional, N/A = Not Applicable. Plus or minus signs may be used to indicate an improving (+) or worsening (-) trend insufficient to change assessment status.

(b) The contractor shall designate representatives to whom the evaluations will be sent automatically and electronically. The name, title, e-mail address and phone number of the designated contractor representative shall be provided to the contracting officer who will, in turn, provide that information to their CPARS Focal Point administrator for authorization access. Any changes in designated contractor personnel shall be the sole responsibility of the contractor to inform the contracting officer and the CPARS Focal Point.

The contractor has thirty (30) calendar days from the date of the contractor's receipt of the Report to review and provide a response to the contracting officer regarding the contents of the Report. The response shall be sent through CPARS.

The contractor's response to the Report may include written comments, rebuttals (disagreements), or additional information. If the contractor does not respond to the Report within the designated thirty (30) calendar days, the specified ratings in the Report are deemed appropriate for the evaluation period. In this instance, the contracting officer shall complete the Agency review and finalize the evaluation in CPARS after expiration of the specified 30 calendar days.

If the contractor submits comments, rebuttals (disagreements), or additional information to the contracting officer which contests the ratings, the contracting officer, in consultation with the contract level contracting officer's representative and/or applicable official, shall initially try to resolve the disagreement with the contractor.

If the disagreement is not resolved between the contractor and the contracting officer, the matter will be referred, as promptly as possible, to the Reviewing Official (an official at least one level above the contracting officer or contract specialist) for resolution.

The Agency Reviewing Official shall record a determination in CPARS. The ultimate conclusion on the performance evaluation is a decision of the EPA.

The contracting officer shall complete the Agency review and finalize the evaluation in CPARS after the contracting officer receives the Agency Reviewing Official's determination.

An interim or final report is considered completed after the contracting officer finalizes the evaluation in CPARS.

#### **6. 1552.211-72 Monthly Progress Report (JUN 1996)**

(a) The Contractor shall furnish ——— copies of the combined monthly technical and financial progress report stating the progress made, including the percentage of the project completed, and a description of the work accomplished to support the cost. If the work is ordered using work assignments or delivery orders, include the estimated percentage of task completed during the reporting period for each work assignment or delivery order.

(b) Specific discussions shall include difficulties encountered and remedial action taken during the reporting period, and anticipated activity with a schedule of deliverables for the subsequent reporting period.

(c) The Contractor shall provide a list of outstanding actions awaiting Contracting Officer authorization, noted with the corresponding work assignment, such as subcontractor/consultant consents, overtime approvals, and work plan approvals.

(d) The report shall specify financial status at the contract level as follows:

(1) For the current reporting period, display the amount claimed.

(2) For the cumulative period and the cumulative contract life display: the amount obligated, amount originally invoiced, amount paid, amount suspended, amount disallowed, and remaining approved amount. The remaining approved amount is defined as the total obligated amount, less the total amount originally invoiced, plus total amount disallowed.

(3) Labor hours.

- (i) A list of employees, their labor categories, and the numbers of hours worked for the reporting period.
- (ii) For the current reporting period, display the expended direct labor hours and costs broken out by EPA contract labor hour category for the prime contractor and each subcontractor and consultant.
- (iii) For the cumulative contract period and the cumulative contract life display: the negotiated, expended and remaining direct labor hours and costs broken out by EPA contract labor hour category for the prime contractor, and each subcontractor and consultant.
- (iv) Display the estimated direct labor hours and costs to be expended during the next reporting period.
- (4) Display the current dollar ceilings in the contract, net amount invoiced, and remaining amounts for the following categories: Direct labor hours, total estimated cost, award fee pool (if applicable), subcontracts by individual subcontractor, travel, program management, and Other Direct Costs (ODCs).
- (5) Unbilled allowable costs. Display the total costs incurred but unbilled for the current reporting period and cumulative for the contract.
- (6) Average cost of direct labor. Compare the actual average cost per hour to date with the average cost per hour of the approved work plans for the current contract period.
- (e) The report shall specify financial status at the work assignment or delivery order level as follows:
  - (1) For the current period, display the amount claimed.
  - (2) For the cumulative period display: amount shown on workplan, or latest work assignment/delivery order amendment amount (whichever is later); amount currently claimed; amount paid; amount suspended; amount disallowed; and remaining approved amount. The remaining approved amount is defined as: the workplan amount or latest work assignment or delivery order amount (whichever is later), less total amounts originally invoiced, plus total amount disallowed.
  - (3) Labor hours.
    - (i) A list of employees, their labor categories, and the number of hours worked for the reporting period.
    - (ii) For the current reporting period, display the expended direct labor hours and costs broken out by EPA contract labor hour category for the prime contractor and each subcontractor and consultant.
    - (iii) For the current reporting period, cumulative contract period, and the cumulative contract life display: the negotiated, expended and remaining direct labor hours and costs broken out by EPA contract labor hour category for the prime contractor and each subcontractor and consultant.
    - (iv) Display the estimated direct labor hours and costs to be expended during the next reporting period.
    - (v) Display the estimates of remaining direct labor hours and costs required to complete the work

assignment or delivery order.

(4) Unbilled allowable costs. Display the total costs incurred but unbilled for the current reporting period and cumulative for the work assignment.

(5) Average cost of direct labor. Display the actual average cost per hour with the cost per hour estimated in the workplan.

(6) A list of deliverables for each work assignment or delivery order during the reporting period.

(f) This submission does not change the notification requirements of the "Limitation of Cost" or "Limitation of Funds" clauses requiring separate written notice to the Contracting Officer.

(g) The reports shall be submitted to the following addresses on or before the \_\_\_\_\_ of each month following the first complete reporting period of the contract. See EPAAR 1552.232-70, Submission of Invoices, paragraph (e), for details on the timing of submittals. Distribute reports as follows:

| No. of copies | Addressee            |
|---------------|----------------------|
|               | Project Officer.     |
|               | Contracting Officer. |

**7. 1552.211-79 (OCT 2000) COMPLIANCE WITH EPA POLICIES FOR INFORMATION RESOURCES MANAGEMENT**

(a) *Definition.* Information Resources Management (IRM) is defined as any planning, budgeting, organizing, directing, training, promoting, controlling, and managing activities associated with the burden, collection, creation, use and dissemination of information. IRM includes both information itself, and the management of information and related resources such as personnel, equipment, funds, and technology. Examples of these services include but are not limited to the following:

(1) The acquisition, creation, or modification of a computer program or automated data base for delivery to EPA or use by EPA or contractors operating EPA programs.

(2) The analysis of requirements for, study of the feasibility of, evaluation of alternatives for, or design and development of a computer program or automated data base for use by EPA or contractors operating EPA programs.

(3) Services that provide EPA personnel access to or use of computer or word processing equipment, software, or related services.

(4) Services that provide EPA personnel access to or use of: Data communications; electronic messaging services or capabilities; electronic bulletin boards, or other forms of electronic information dissemination; electronic record-keeping; or any other automated information services.

(b) *General.* The Contractor shall perform any IRM related work under this BPA in accordance with the IRM policies, standards and procedures set forth in this clause and noted below. Upon receipt of a work request (i.e. delivery order or work assignment), the Contractor shall check this listing of directives (see paragraph (d) for electronic access). The applicable directives for performance of the work request are those in effect on the date of issuance of the work request.

(1) *IRM policies, standards and procedures.* The 2100 Series (2100-2199) of the Agency's Directive System contains the majority of the Agency's IRM policies, standards and procedures.

(2) *Groundwater program IRM requirement.* A contractor performing any work related to collecting Groundwater data; or developing or enhancing data bases containing Groundwater quality data shall comply with EPA Order 7500.1A—*Minimum Set of Data Elements for Groundwater.*

(3) *EPA computing and telecommunications services.* The Enterprise Technology Services Division (ETSD) Operational Directives Manual contains procedural information about the operation of the Agency's computing and telecommunications services. Contractors performing work for the Agency's National Computer Center or those who are developing systems which will be operating on the Agency's national platforms must comply with procedures established in the Manual. (This document may be found at: <http://basin.rtpnc.epa.gov/etsd/directives.nsf>).

(c) *Printed documents.* Documents listed in (b)(1) and (b)(2) may be obtained from: U.S. Environmental Protection Agency Office of Administration Facilities Management and Services Division Distribution Section Mail Code: 3204 1200 Pennsylvania Ave., NW., Washington, DC 20460 Phone: (202) 260-5797

(d) *Electronic access.* A complete listing, including full text, of documents included in the 2100 Series of the Agency's Directive System is maintained on the EPA Public Access Server on the Internet at <http://epa.gov/docs/irmpoli8/>.

#### **8. EP 52.212-140 (APR 1984) PERIOD OF PERFORMANCE**

The period of performance of this blanket purchase agreement shall be from \_\_\_\_ through \_\_\_\_.

#### **9. 1552.216-72 (APR 1984) ORDERING—BY DESIGNATED ORDERING OFFICERS**

(a) The Government will order any supplies and services to be furnished under this contract by issuing tasks orders on Optional Form 347, or any agency prescribed form. In addition to the Contracting Officer, the following individuals are authorized ordering officers.

**NONE**

(b) A Standard Form 30 will be the method of amending delivery orders.

(c) The Contractor shall acknowledge receipt of each order and shall prepare and forward to the COR within ten (10) calendar days the proposed quote for accomplishing the assigned task within the period specified.

(d) If the Contractor considers the estimated labor hours or specified work completion date to be unreasonable, he/she shall promptly notify the COR and Contracting Officer in writing within 10 calendar days, stating why the estimated labor hours or specified completion date is considered unreasonable.

(e) Each task order will have a ceiling price, which the Contractor may not exceed. When the Contractor has reason to believe that the labor payment and support costs for the order, which will accrue in the next thirty (30) days, will bring total cost to over 85 percent of the ceiling price specified in the order, the Contractor shall notify the COR and the Contracting Officer.

(f) Paragraphs (c), (d), and (e) of this clause apply only when services are being ordered.

#### **10. 1552.232- 70 Submission of Invoices (JUN 1996)**

In order to be considered properly submitted, an invoice or request for contract financing payment must meet the following contract requirements in addition to the requirements of FAR 32.905:

(a) Unless otherwise specified in the contract, an invoice or request for contract financing payment shall be submitted as an original and five copies. The Contractor shall submit the invoice or request for contract financing payment to the following offices/individuals designated in the contract: the original and two copies to the Accounting Operations Office shown in Block \_\_\_\_\_ on the cover of the contract; two copies to the Project Officer (the Project Officer may direct one of these copies to a separate address); and one copy to the Contracting Officer.

(b) The Contractor shall prepare its invoice or request for contract financing payment on the prescribed Government forms. Standard Forms Number 1034, Public Voucher for Purchases and Services other than Personal, shall be used by contractors to show the amount claimed for reimbursement. Standard Form 1035, Public Voucher for Purchases and Services other than Personal—Continuation Sheet, shall be used to furnish the necessary supporting detail or additional information required by the Contracting Officer. The Contractor may submit self-designed forms which contain the required information.

(c)(1) The Contractor shall prepare a contract level invoice or request for contract financing payment in accordance with the invoice preparation instructions identified as a separate attachment in Section J of the contract. If contract work is authorized by individual work assignments, the invoice or request for contract financing payment shall also include a summary of the current and cumulative amounts claimed by cost element for each work assignment and for the contract total, as well as any supporting data for each work assignment as identified in the instructions.

(2) The invoice or request for contract financing payment shall include current and cumulative charges by major cost element such as direct labor, overhead, travel, equipment, and other direct costs. For current costs, each major cost element shall include the appropriate supporting schedule identified in the invoice preparation instructions. Cumulative charges represent the net sum of current charges by cost element for the contract period.

(3) The charges for subcontracts shall be further detailed in a supporting schedule showing the major cost elements for each subcontract. The degree of detail for any subcontract exceeding \$5,000 is to be the same as that set forth under (c)(2).



(4) The charges for consultants shall be further detailed in the supporting schedule showing the major cost elements of each consultant. For current costs, each major cost element of the consulting agreement shall also include the supporting schedule identified in the invoice preparation instructions.

(d) Invoices or requests for contract financing payment must clearly indicate the period of performance for which payment is requested. Separate invoices or requests for contract financing payment are required for charges applicable to the basic contract and each option period.

(e)(1) Notwithstanding the provisions of the clause of this contract at FAR 52.216-7, Allowable Cost and Payment, invoices or requests for contract financing payment shall be submitted once per month unless there has been a demonstrated need and Contracting Officer approval for more frequent billings. When submitted on a monthly basis, the period covered by invoices or requests for contractor financing payments shall be the same as the period for monthly progress reports required under this contract.

(2) If the Contracting Officer allows submissions more frequently than monthly, one submittal each month shall have the same ending period of performance as the monthly progress report.

(3) Where cumulative amounts on the monthly progress report differ from the aggregate amounts claimed in the invoice(s) or request(s) for contract financing payments covering the same period, the contractor shall provide a reconciliation of the difference as part of the payment request. Alternate I (JUN 1996). If used in a fixed-rate type contract, substitute the following paragraphs (c)(1) and (2) for paragraphs (c)(1) and (2) of the basic clause:

(c)(1) The Contractor shall prepare a contract level invoice or request for contract financing payment in accordance with the invoice preparation instructions identified as a separate attachment in Section J of the contract. If contract work is authorized by individual delivery orders, the invoice or request for contract financing payment shall also include a summary of the current and cumulative amounts claimed by cost element for each delivery order and for the contract total, as well as any supporting data for each delivery order as identified in the instructions.

(2) The invoice or request for contract financing payment that employs a fixed rate feature shall include current and cumulative charges by contract labor category and by other major cost elements such as travel, equipment, and other direct costs. For current costs, each cost element shall include the appropriate supporting schedules identified in the invoice preparation instructions.

**11. 1552.235-79 (APR 1996) RELEASE OF CONTRACTOR CONFIDENTIAL BUSINESS INFORMATION**

(a) The Environmental Protection Agency (EPA) may find it necessary to release information submitted by the Contractor either in response to this solicitation or pursuant to the provisions of this blanket purchase agreement, to individuals not employed by EPA. Business information that is ordinarily entitled to confidential treatment under existing Agency regulations (40 C.F.R. Part 2) may be included in the information released to these individuals. Accordingly, by submission of this proposal or signature on this blanket

purchase agreement or other contracts, the Contractor hereby consents to a limited release of its confidential business information (CBI).

- (b) Possible circumstances where the Agency may release the Contractor's CBI include, but are not limited to the following:

(1) To other Agency contractors tasked with assisting the Agency in the recovery of Federal funds expended pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. Sec. 9607, as amended, (CERCLA or Superfund);

(2) To the U.S. Department of Justice (DOJ) and contractors employed by DOJ for use in advising the Agency and representing the Agency in procedures for the recovery of Superfund expenditures;

(3) To parties liable, or potentially liable, for costs under CERCLA Sec. 107 (42 U.S.C. Sec. 9607), et al, and their insurers (Potentially Responsible Parties) for purposes of facilitating settlement or litigation of claims against such parties;

(4) To other Agency contractors who, for purposes of performing the work required under the respective contracts, require access to information the Agency obtained under the Clean Air Act (42 U.S.C. 7401 et seq.); the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.); the Safe Drinking Water Act (42 U.S.C. 300f et seq.); the Federal Insecticide, Fungicide and Rodenticide Act (7 U.S.C. 136 et seq.); the Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.); the Toxic Substances Control Act (15 U.S.C. 2601 et seq.); or the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601 et seq.);

(5) To other Agency contractors tasked with assisting the Agency in handling and processing information and documents in the administration of Agency contracts, such as providing both preaward and post award audit support and specialized technical support to the Agency's technical evaluation panels;

(6) To employees of grantees working at EPA under the Senior Environmental Employment (SEE) Program;

(7) To Speaker of the House, President of the Senate, or Chairman of a Committee or Subcommittee;

(8) To entities such as the General Accounting Office, boards of contract appeals, and the Courts in the resolution of solicitation or contract protests and disputes;

(9) To Agency contractor employees engaged in information systems analysis, development, operation, and maintenance, including performing data processing and management functions for the Agency; and

(10) Pursuant to a court order or court-supervised agreement.

(c) The Agency recognizes an obligation to protect the contractor from competitive harm that may result from the release of such information to a competitor. (See also the clauses in this document entitled "Screening Business Information for Claims of Confidentiality" and "Treatment of Confidential Business Information.") Except where otherwise provided by law, the Agency will permit the release of CBI under subparagraphs (1), (3), (4), (5), (6), or (9) only pursuant to a confidentiality agreement.

(d) With respect to contractors, 1552.235-71 will be used as the confidentiality agreement. With respect to Potentially Responsible Parties, such confidentiality agreements may permit further disclosure to other entities where necessary to further settlement or litigation of claims under CERCLA. Such entities include, but are not limited to accounting firms and technical experts able to analyze the information, provided that they also agree to be bound by an appropriate confidentiality agreement.

(e) This clause does not authorize the Agency to release the Contractor's CBI to the public pursuant to a request filed under the Freedom of Information Act.

(f) The Contractor agrees to include this clause, including this paragraph (f), in all subcontracts at all levels awarded pursuant to this blanket purchase agreement that require the furnishing of confidential business information by the subcontractor.

**12. 1552.237-72 Key Personnel (APR 1984)**

(a) The Contractor shall assign to this contract the following key personnel:

- Project Manager (or equivalent from vendor labor descriptions)
- Senior Environmental Scientist (or equivalent from vendor labor descriptions)

(b) During the first ninety (90) days of performance, the Contractor shall make no substitutions of key personnel unless the substitution is necessitated by illness, death, or termination of employment. The Contractor shall notify the Contracting Officer within 15 calendar days after the occurrence of any of these events and provide the information required by paragraph (c) of this clause. After the initial 90-day period, the Contractor shall submit the information required by paragraph (c) to the Contracting Officer at least 15 days prior to making any permanent substitutions.

(c) The Contractor shall provide a detailed explanation of the circumstances necessitating the proposed substitutions, complete resumes for the proposed substitutes, and any additional information requested by the Contracting Officer. Proposed substitutes should have comparable qualifications to those of the persons being replaced. The Contracting Officer will notify the Contractor within 15 calendar days after receipt of all required information of the decision on substitutions. This clause will be modified to reflect any approved changes of key personnel.

"Disputes" clause of this contract. If the Schedule provides rates for overtime the premium portion of those rates will be reimbursable only to the extent the overtime is approved by the Contracting Officer.

(b) *Materials, other direct costs, and subcontracts.* (1) The allowability of direct materials and other direct costs shall be determined by the Contracting Officer in accordance with subpart 31.2 of the Federal Acquisition Regulation (FAR) in effect on the date of this contract. Reasonable and allocable material handling costs or indirect costs may be included in the charge for material or other direct costs to the extent they are clearly excluded from the hourly rate. Material handling and/or indirect cost rates are specified in the "Indirect Costs" clause. Material handling costs are comprised of indirect costs, including, when appropriate, general and administrative expense allocated to direct materials in accordance with the Contractor's usual accounting practices consistent with subpart 31.2 of the FAR. The Contractor shall be reimbursed for items and services purchased directly for the contract only when cash, checks, or other forms of actual payment have been made for such purchased items or services. Direct materials or other direct costs, as used in this clause, are those items which enter directly into the end product, or which are used or consumed directly in connection with the furnishing of the end product.

(2) Subcontracted effort may be included in the fixed hourly rates discussed in paragraph (a)(1) of this clause and will be reimbursed as discussed in that paragraph. Otherwise, the cost of subcontracts that are authorized under the subcontracts clause of this contract shall be reimbursable costs under this clause provided that the costs are consistent with paragraph (b)(3) of this clause. Reimbursable costs in connection with subcontracts shall be payable to subcontractors consistent with FAR 32.504 in the same manner as for services purchased directly for the contract under paragraph (a)(1) of this clause. Reimbursable costs shall not include any costs arising from the letting, administration, or supervision of performance of the subcontract, if the costs are included in the hourly rates payable under paragraph (a)(1) of this clause.

(3) To the extent able, the Contractor shall (i) obtain materials at the most advantageous prices available with due regard to securing prompt delivery of satisfactory materials; and (ii) take all cash and trade discounts, rebates, allowances, credits, salvage, commissions, and other benefits. When unable to take advantage of the benefits, the Contractor shall promptly notify the Contracting Officer and give the reasons. Credit shall be given to the Government for cash and trade discounts, rebates, allowances, credits, salvage, the value of any appreciable scrap, commissions, and other amounts that have accrued to the benefit of the Contractor, or would have accrued except for the fault or neglect of the Contractor. The benefits lost without fault or neglect on the part of the Contractor, or lost through fault of the Government, shall not be deducted from gross costs.

(4) If the nature of the work to be performed requires the Contractor to furnish material which is regularly sold to the general public in the normal course of business by the Contractor, the price to be paid for such material, notwithstanding paragraph (b)(1) of this contract, shall be on the basis of an established catalog or list price, in effect when the material is furnished, less all applicable discounts to the Government; provided, that in no event shall such price be in excess of the Contractor's sales price to its most favored customer for the same item in like quantity, or the current market price, whichever is lower.

(c) *Contracting Officer notification.* For contract administration purposes, the Contractor shall notify the Contracting Officer in writing when the total value of all delivery orders issued exceeds 85 percent of the maximum price specified in the schedule.

(d) *Maximum amount.* The Government shall not be obligated to pay the Contractor any amount in excess of the maximum amount in the Schedule, and the Contractor shall not be obligated to continue performance if to do so would exceed the maximum amount set forth in the Schedule, unless or until the Contracting Officer shall have notified the Contractor in writing that the maximum amount has been

increased and shall have specified in the notice a revised maximum that shall constitute the maximum amount for performance under this contract. When and to the extent that the maximum amount set forth in the Schedule has been increased, any hours expended, and material or other direct costs incurred by the Contractor in excess of the maximum amount before the increase, shall be allowable to the same extent as if the hours expended and material costs had been incurred after the increase in the maximum amount.

(e) *Audit.* At any time before final payment under this contract, the Contracting Officer may request audit of the invoices or vouchers and substantiating material. Each payment previously made shall be subject to reduction to the extent of amounts, on preceding invoices or vouchers, that are found by the Contracting Officer not to have been properly payable and shall also be subject to reduction for overpayments or to increase for underpayments. Upon receipt and approval of the voucher or invoice designated by the Contractor as the "completion voucher" or "completion invoice" and substantiating material, and upon compliance by the Contractor with all terms of this contract (including, without limitation, terms relating to patents and the terms of paragraphs (f) and (g) of this clause), the Government shall promptly pay any balance due the Contractor. The completion invoice or voucher, and substantiating material, shall be submitted by the Contractor as promptly as practicable following completion of the work under this contract, but in no event, later than one year (or such longer period as the Contracting Officer may approve in writing) from the date of completion.

(f) *Assignment.* The Contractor, and each assignee under an assignment entered into under this contract and in effect at the time of final payment under this contract, shall execute and deliver, at the time of and as a condition precedent to final payment under this contract, a release discharging the Government, its officers, agents, and employees of and from all liabilities, obligations, and claims arising out of or under this contract, subject only to the following exceptions:

(1) Specified claims in stated amounts, or in estimated amounts if the amounts are not susceptible of exact statement by the Contractor.

(2) Claims, together with reasonable incidental expenses, based upon the liabilities of the Contractor to third parties arising out of performing this contract, that are not known to the Contractor on the date of the execution of the release, and of which the Contractor gives notice in writing to the Contracting Officer not more than 6 years after the date of the release or the date of any notice to the Contractor that the Government is prepared to make final payment, whichever is earlier.

(3) Claims for reimbursement of costs (other than expenses of the Contractor by reason of its indemnification of the Government against patent liability), including reasonable incidental expenses, incurred by the Contractor under the terms of this contract relating to patents.

(g) *Refunds.* The Contractor agrees that any refunds, rebates, or credits (including any related interest) accruing to or received by the Contractor or any assignee, that arise under the materials portion of this contract and for which the Contractor has received reimbursement, shall be paid by the Contractor to the Government. The Contractor and each assignee, under an assignment entered into under this contract and in effect at the time of final payment under this contract, shall execute and deliver, at the time of and as a condition precedent to final payment under this contract, an assignment to the Government of such refunds, rebates, or credits (including any interest) in form and substance satisfactory to the Contracting Officer.

(End of clause)

# ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1 2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|  |  |   |                          |  |                      |
|--|--|---|--------------------------|--|----------------------|
| 1. DATE OF ORDER<br>05/23/2013   |  | 2. CONTRACT NO. (If any)<br>EP-BPA-12-H-0029    |                          | 6. SHIP TO:<br>a. NAME OF CONSIGNEE<br>OAR/OAP/CCD   |                      |
| 3. ORDER NO.<br>EP-B13H-00130  |  | 4. REQUISITION/REFERENCE NO.<br>PR-OAR-13-01134 |                          |  |                      |
| 5. ISSUING OFFICE (Address correspondence to)<br>HPOD<br>US Environmental Protection Agency<br>Ariel Rios Building<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 3803R<br>Washington DC 20460 |  |   |                          | b. STREET ADDRESS<br>US Environmental Protection Agency<br>1200 Pennsylvania Avenue NW<br>Mail Code: 62107J<br>OAP/CCD   |                      |
|  |  |   |                          | c. CITY<br>Washington  | e. ZIP CODE<br>20460 |
| 7. TO:<br>a. NAME OF CONTRACTOR<br>TETRA TECH, INC.  |  |   |                          | f. SHIP VIA  |                      |
| b. COMPANY NAME  |  |   |                          | 8. TYPE OF ORDER<br><input type="checkbox"/> a. PURCHASE<br>REFERENCE YOUR:<br><br><br>Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.                    |                      |
| c. STREET ADDRESS<br>3475 E. FOOTHILL BOULEVARD  |  |   |                          | <input checked="" type="checkbox"/> b. DELIVERY<br>Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract. |                      |
| d. CITY<br>PASADENA  |  | e. STATE<br>CA                                  | f. ZIP CODE<br>911076024 |  |                      |
| 9. ACCOUNTING AND APPROPRIATION DATA<br>See Schedule   |  |   |                          | 10. REQUISITIONING OFFICE<br>OARM  |                      |

|   |  |                              |  |  |  |
|---|--|------------------------------|--|--|--|
| 11. BUSINESS CLASSIFICATION (Check appropriate box(es))<br><input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone<br><input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB |  |                              |  | 12. F.O.B. POINT<br>Destination                    |  |
| 13. PLACE OF<br>a. INSPECTION<br>Destination  |  | b. ACCEPTANCE<br>Destination |  | 14. GOVERNMENT B/L NO.                             |  |
|   |  |                              |  | 15. DELIVER TO F.O.B. POINT<br>ON OR BEFORE (Date) |  |
|   |  |                              |  | 16. DISCOUNT TERMS                                 |  |

## 17. SCHEDULE (See reverse for Rejections)

| ITEM NO.<br>(a)                           | SUPPLIES OR SERVICES<br>(b)   | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d)               | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f)   | QUANTITY<br>ACCEPTED<br>(g) |
|---|---|----------------------------|---------------------------|----------------------|-----------------|-----------------------------|
|   | GSA Contract #: GS-23F-0112L<br>DUNS Number: (b)(4)<br>The total estimated cost for this task order "Global Methane Initiative (GMI) Wastewater 2013: Global Technical Services and Training" is \$127,078.33 for 818 labor Continued ... |                            |                           |                      |                 |                             |
| SEE BILLING<br>INSTRUCTIONS<br>ON REVERSE | 18. SHIPPING POINT  |                            | 19. GROSS SHIPPING WEIGHT |                      | 20. INVOICE NO. |                             |
|   | 21. MAIL INVOICE TO:  |                            |                           |                      |                 | \$0.00                      |
|   | a. NAME<br>RTP Finance Center   |                            |                           |                      |                 |                             |
|   | b. STREET ADDRESS<br>(or P.O. Box)<br>US Environmental Protection Agency<br>RTP-Finance Center<br>Mail Drop D143-02<br>109 TW Alexander Drive   |                            |                           |                      |                 | \$127,078.33                |
| c. CITY<br>Durham                         |   | d. STATE<br>NC             | e. ZIP CODE<br>27711      |                      |                 |                             |

17(h)  
TOTAL  
(Cont.  
pages)

17(i)  
GRAND  
TOTAL

22. UNITED STATES OF  
AMERICA BY (Signature)

23. NAME (Typed)  
Margaret Kline  
TITLE: CONTRACTING/ORDERING OFFICER



# ORDER FOR SUPPLIES OR SERVICES

## SCHEDULE - CONTINUATION

PAGE NO  
2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|                             |                                  |                            |
|-----------------------------|----------------------------------|----------------------------|
| DATE OF ORDER<br>05/23/2013 | CONTRACT NO.<br>EP-BPA-12-H-0029 | ORDER NO.<br>EP-B13H-00130 |
|-----------------------------|----------------------------------|----------------------------|

| ITEM NO.<br>(a) | SUPPLIES/SERVICES<br>(b)  | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|---|----------------------------|-------------|----------------------|---------------|-----------------------------|
| 0001            | <p>hours. \$50,000 is obligated in incremental funding leaving \$77,078.33 needed to fully fund this task order through its completion date of 22 May 2014.</p> <p>COR: Cris Godlove 202-343-9795<br/>Alt: Henry Ferland 202-343-9330<br/>CO: Margaret Kline 202-564-4238<br/>Admin Office:<br/>HPOD<br/>US Environmental Protection Agency<br/>Ariel Rios Building<br/>1200 Pennsylvania Avenue, N. W.<br/>Mail Code: 3803R<br/>Washington DC 20460</p> <p>Accounting Info:<br/>13-14-B-58F4-101A46XP4-2505---1358FC3645-001<br/>BFY: 13 EFY: 14 Fund: B Budget Org: 58F4<br/>Program (PRC): 101A46XP4 Budget (BOC): 2505<br/>DCN - Line ID: 1358FC3645-001<br/>Period of Performance: 05/23/2013 to 05/22/2014</p> <p>Task Order 130</p> <p>The obligated amount of award: \$50,000.00.<br/>The total for this award is shown in box 17(i).</p> |                            |             |                      |               |                             |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00



# ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1

2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|  |  |   |                          |  |                      |
|--|--|---|--------------------------|--|----------------------|
| 1. DATE OF ORDER<br>09/17/2013   |  | 2. CONTRACT NO. (If any)<br>EP-BPA-12-H-0029    |                          | 6. SHIP TO:<br>a. NAME OF CONSIGNEE<br>OAR/OAP/CCD   |                      |
| 3. ORDER NO.<br>EP-B13H-00130/001  |  | 4. REQUISITION/REFERENCE NO.<br>PR-OAR-13-01701 |                          |  |                      |
| 5. ISSUING OFFICE (Address correspondence to)<br>HPOD<br>US Environmental Protection Agency<br>Ariel Rios Building<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 3803R<br>Washington DC 20460 |  |   |                          | b. STREET ADDRESS<br>US Environmental Protection Agency<br>1200 Pennsylvania Avenue NW<br>Mail Code: 62107J<br>OAP/CCD   |                      |
|  |  |   |                          | c. CITY<br>Washington  | e. ZIP CODE<br>20460 |
| 7. TO:<br>a. NAME OF CONTRACTOR<br>TETRA TECH, INC.  |  |   |                          | f. SHIP VIA  |                      |
| b. COMPANY NAME  |  |   |                          | 8. TYPE OF ORDER<br><input type="checkbox"/> a. PURCHASE<br>REFERENCE YOUR:<br><br><br>Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.                    |                      |
| c. STREET ADDRESS<br>3475 E. FOOTHILL BOULEVARD  |  |   |                          | <input checked="" type="checkbox"/> b. DELIVERY<br>Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract. |                      |
| d. CITY<br>PASADENA  |  | e. STATE<br>CA                                  | f. ZIP CODE<br>911076024 |  |                      |
| 9. ACCOUNTING AND APPROPRIATION DATA<br>See Schedule   |  |   |                          | 10. REQUISITIONING OFFICE<br>OARM  |                      |

|   |  |                              |  |  |  |
|---|--|------------------------------|--|--|--|
| 11. BUSINESS CLASSIFICATION (Check appropriate box(es))<br><input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone<br><input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB |  |                              |  | 12. F.O.B. POINT<br>Destination                    |  |
| 13. PLACE OF<br>a. INSPECTION<br>Destination  |  | b. ACCEPTANCE<br>Destination |  | 14. GOVERNMENT B/L NO.                             |  |
|   |  |                              |  | 15. DELIVER TO F.O.B. POINT<br>ON OR BEFORE (Date) |  |
|   |  |                              |  | 16. DISCOUNT TERMS                                 |  |

## 17. SCHEDULE (See reverse for Rejections)

| ITEM NO.<br>(a) | SUPPLIES OR SERVICES<br>(b)   | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|---|----------------------------|-------------|----------------------|---------------|-----------------------------|
|                 | GSA Contract #: GS-23F-0112L<br>DUNS Number: (b)(4)<br>The purpose of this modification is to obligate \$77,078.33 to fully fund this task order through its completion date of 22 May 2014.<br>Continued ... |                            |             |                      |               |                             |

|   |   |  |                           |                      |                 |              |                                    |
|---|---|--|---------------------------|----------------------|-----------------|--------------|------------------------------------|
| SEE BILLING<br>INSTRUCTIONS<br>ON REVERSE | 18. SHIPPING POINT  |  | 19. GROSS SHIPPING WEIGHT |                      | 20. INVOICE NO. |              | 17(h)<br>TOTAL<br>(Cont.<br>pages) |
|   | 21. MAIL INVOICE TO:<br>a. NAME<br>RTP Finance Center   |  |                           |                      |                 |              |                                    |
|   | b. STREET ADDRESS<br>(or P.O. Box)<br>US Environmental Protection Agency<br>RTP-Finance Center<br>Mail Drop D143-02<br>109 TW Alexander Drive |  |                           |                      |                 |              | 17(i)<br>GRAND<br>TOTAL            |
|   | c. CITY<br>Durham   |  | d. STATE<br>NC            | e. ZIP CODE<br>27711 |                 | \$127,078.33 |                                    |

22. UNITED STATES OF  
AMERICA BY (Signature)

23. NAME (Typed)  
Margaret Kline  
TITLE: CONTRACTING/ORDERING OFFICER

# ORDER FOR SUPPLIES OR SERVICES

## SCHEDULE - CONTINUATION

PAGE NO  
2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|                             |                                      |                                |
|-----------------------------|--------------------------------------|--------------------------------|
| DATE OF ORDER<br>09/17/2013 | CONTRACT NO.<br>EP-BPA-12-H-0029/001 | ORDER NO.<br>EP-B13H-00130/001 |
|-----------------------------|--------------------------------------|--------------------------------|

| ITEM NO.<br>(a) | SUPPLIES/SERVICES<br>(b)  | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|---|----------------------------|-------------|----------------------|---------------|-----------------------------|
|                 | <p>COR: Cris Godlove 202-343-9795<br/> Alt: Henry Ferland 202-343-9330<br/> CO: Margaret Kline 202-564-4238<br/> NEW ACCOUNTING CODE ADDED:<br/> Account code:<br/> 13-14-BR-58F0X15-101A46-2505---1358FC3717-001<br/> Beginning FiscalYear 13<br/> Ending Fiscal Year 14<br/> Fund (Appropriation) BR<br/> Budget Organization 58F0X15<br/> Program (PRC) 101A46<br/> Budget (BOC) 2505<br/> Amount: \$77,078.33<br/> Admin Office:<br/> HPOD<br/> US Environmental Protection Agency<br/> Ariel Rios Building<br/> 1200 Pennsylvania Avenue, N. W.<br/> Mail Code: 3803R<br/> Washington DC 20460<br/> Period of Performance: 05/23/2013 to<br/> 05/22/2014</p> |                            |             |                      |               |                             |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00

|   |  |  |  |  |  |
|---|--|--|--|--|--|
| <b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>   |  | 1. CONTRACT ID CODE  |  | PAGE OF PAGES<br>1 2   |  |
| 2. AMENDMENT/MODIFICATION NO.<br>002  |  | 3. EFFECTIVE DATE<br>09/17/2013  |  | 4. REQUISITION/PURCHASE REQ. NO.   |  |
| 5. PROJECT NO. (If applicable)  |  | 6. ISSUED BY CODE<br>HPOD  |  | 7. ADMINISTERED BY (If other than Item 6) CODE   |  |
| HPOD<br>US Environmental Protection Agency<br>Ariel Rios Building<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 3803R<br>Washington DC 20460 |  | 8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)<br>TETRA TECH, INC.<br>3475 E. FOOTHILL BOULEVARD<br>PASADENA CA 911076024 |  | 9A. AMENDMENT OF SOLICITATION NO.<br>9B. DATED (SEE ITEM 11)   |  |
| CODE (b)(4)   |  | FACILITY CODE  |  | 10A. MODIFICATION OF CONTRACT/ORDER NO.<br>EP-BFA-12-H-0029<br>EP-B13H-00130<br>10B. DATED (SEE ITEM 13)<br>05/23/2013 |  |

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended, ☐ is not extended.  
Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

**12. ACCOUNTING AND APPROPRIATION DATA (If required)**

See Schedule

**13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

|           |   |
|-----------|---|
| CHECK ONE | A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.  |
| X         | B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b). |
|           | C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:  |
|           | D. OTHER (Specify type of modification and authority)   |

**E. IMPORTANT:** Contractor ☒ is not, ☐ is required to sign this document and return \_\_\_\_\_ 0 \_\_\_\_\_ copies to the issuing office.

**14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)**

GSA Contract #: GS-23F-0112L

DUNS Number: (b)(4)

Delete the coversheet to modification 1 which obligated \$77,078.33 and replace with this SF 30.

COR: Cris Godlove 202-343-9795

Alt: Henry Ferland 202-343-9330

CO: Margaret Kline 202-564-4238

Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

|   |                  |  |                                |
|---|------------------|--|--------------------------------|
| 15A. NAME AND TITLE OF SIGNER (Type or print)                           |                  | 16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)<br>Margaret Kline |                                |
| 15B. CONTRACTOR/OFFEROR<br><br>(Signature of person authorized to sign) | 15C. DATE SIGNED | 16B. UNITED STATES OF AMERICA<br><br>(Signature of Contracting Officer)      | 16C. DATE SIGNED<br>09/17/2013 |

## CONTINUATION SHEET

REFERENCE NO. OF DOCUMENT BEING CONTINUED  
EP-BPA-12-H-0029/EP-B13H-00130/002PAGE OF  
2 2NAME OF OFFEROR OR CONTRACTOR  
TETRA TECH, INC.

| ITEM NO.<br>(A) | SUPPLIES/SERVICES<br>(B)  | QUANTITY<br>(C) | UNIT<br>(D) | UNIT PRICE<br>(E) | AMOUNT<br>(F) |
|-----------------|---|-----------------|-------------|-------------------|---------------|
|                 | Payment:<br>RTP Finance Center<br>US Environmental Protection Agency<br>RTP-Finance Center<br>Mail Drop D143-02<br>109 TW Alexander Drive<br>Durham NC 27711<br>Period of Performance: 05/23/2013 to 05/22/2014 |                 |             |                   |               |

# ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1

6

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|  |  |  |                          |  |                      |
|--|--|--|--------------------------|--|----------------------|
| 1. DATE OF ORDER<br>11/23/2012   |  | 2. CONTRACT NO. (If any)<br>EP-BPA-12-H-0029 |                          | 6. SHIP TO:<br>a. NAME OF CONSIGNEE<br>OAR/OAP/CCD   |                      |
| 3. ORDER NO.<br>EP-B13H-00031  |  | 4. REQUISITION/REFERENCE NO.<br>See Schedule |                          |  |                      |
| 5. ISSUING OFFICE (Address correspondence to)<br>HPOD<br>US Environmental Protection Agency<br>Ariel Rios Building<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 3803R<br>Washington DC 20460 |  |  |                          | b. STREET ADDRESS<br>US Environmental Protection Agency<br>1200 Pennsylvania Avenue NW<br>Mail Code: 62107J<br>OAP/CCD   |                      |
|  |  |  |                          | c. CITY<br>Washington  | e. ZIP CODE<br>20460 |
| 7. TO:<br>a. NAME OF CONTRACTOR<br>TETRA TECH, INC.  |  |  |                          | f. SHIP VIA  |                      |
| b. COMPANY NAME  |  |  |                          | 8. TYPE OF ORDER<br><input type="checkbox"/> a. PURCHASE<br>REFERENCE YOUR:<br><br><br>Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.                    |                      |
| c. STREET ADDRESS<br>3475 E. FOOTHILL BOULEVARD  |  |  |                          | <input checked="" type="checkbox"/> b. DELIVERY<br>Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract. |                      |
| d. CITY<br>PASADENA  |  | e. STATE<br>CA                               | f. ZIP CODE<br>911076024 |  |                      |
| 9. ACCOUNTING AND APPROPRIATION DATA<br>See Schedule   |  |  |                          | 10. REQUISITIONING OFFICE<br>OARM  |                      |

|  |  |                              |  |  |  |
|--|--|------------------------------|--|--|--|
| 11. BUSINESS CLASSIFICATION (Check appropriate box(es))<br><input type="checkbox"/> a. SMALL <input type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone<br><input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB |  |                              |  | 12. F.O.B. POINT<br>Destination                    |  |
| 13. PLACE OF<br>a. INSPECTION<br>Destination   |  | b. ACCEPTANCE<br>Destination |  | 14. GOVERNMENT B/L NO.                             |  |
|  |  |                              |  | 15. DELIVER TO F.O.B. POINT<br>ON OR BEFORE (Date) |  |
|  |  |                              |  | 16. DISCOUNT TERMS                                 |  |

## 17. SCHEDULE (See reverse for Rejections)

| ITEM NO.<br>(a) | SUPPLIES OR SERVICES<br>(b)  | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|--|----------------------------|-------------|----------------------|---------------|-----------------------------|
|                 | GSA Contract #: GS-23F-0112L<br>DUNS Number: (b)(4)<br>The total estimated cost for BPA Call 2 "Administrative Support for the AgSTAR Program" is \$28,619 for 250 labor hours.<br><br>Continued ... |                            |             |                      |               |                             |

|   |  |                |                           |  |                 |  |                                    |
|---|--|----------------|---------------------------|--|-----------------|--|------------------------------------|
| SEE BILLING<br>INSTRUCTIONS<br>ON REVERSE | 18. SHIPPING POINT   |                | 19. GROSS SHIPPING WEIGHT |  | 20. INVOICE NO. |  | 17(h)<br>TOTAL<br>(Cont.<br>pages) |
|   | 21. MAIL INVOICE TO:   |                |                           |  |                 |  |                                    |
|   | a. NAME<br>RTP Finance Center  |                |                           |  |                 |  | \$28,619.00                        |
|   | b. STREET ADDRESS<br>(or P.O. Box)<br>US Environmental Protection Agency<br>RTP-Finance Center (D143-02)<br>109 TW Alexander Drive |                |                           |  |                 |  | \$28,619.00                        |
| c. CITY<br>Durham                         |  | d. STATE<br>NC | e. ZIP CODE<br>27711      |  |                 |  | 17(i)<br>GRAND<br>TOTAL            |

22. UNITED STATES OF  
AMERICA BY (Signature)

23. NAME (Typed)  
Rachel Schwartz  
TITLE: CONTRACTING/ORDERING OFFICER

**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO  
2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|                             |                                  |                            |
|-----------------------------|----------------------------------|----------------------------|
| DATE OF ORDER<br>11/23/2012 | CONTRACT NO.<br>EP-BPA-12-H-0029 | ORDER NO.<br>EP-B13H-00031 |
|-----------------------------|----------------------------------|----------------------------|

| ITEM NO.<br>(a) | SUPPLIES/SERVICES<br>(b)   | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|--|----------------------------|-------------|----------------------|---------------|-----------------------------|
|                 | <p>COR: Allison Costa - 202-343-9468<br/>Alt COR: Kurt Roos</p> <p>Contract Number: EP-12-H-0018<br/>Call Number:<br/>Call Manager: Allison Costa</p> <p>Call Title: Administrative Support for the AgSTAR Program</p> <p>STATEMENT OF WORK</p> <p>I. BACKGROUND<br/>AgSTAR is a voluntary outreach and partnership program designed to reduce livestock-generated methane emissions and achieve other air and water quality benefits by promoting commercially demonstrated technologies that treat and stabilize waste streams and combust off gases generated from anaerobic processes. AgSTAR provides a variety of outreach, educational, and technical materials in support of this goal through its website.</p> <p>II. OBJECTIVES<br/>The objective of this task order is to communicate with AgSTAR's stakeholders to announce the availability of program information, as well as respond to requests related to the information provided by the AgSTAR program.</p> <p>III. SPECIFIC TASKS</p> <p>Task 1: Technical Support<br/>As the principal government agency providing information on anaerobic digestion in the agricultural industry, the AgSTAR program receives numerous technical questions from individuals, either through an email request line or submitted directly to a staff member. Through this task, the Contractor shall provide technical support to EPA to establish and maintain an email request line (including an email Continued ...</p> |                            |             |                      |               |                             |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00

**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO  
3

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

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|-----------------------------|----------------------------------|----------------------------|
| DATE OF ORDER<br>11/23/2012 | CONTRACT NO.<br>EP-BPA-12-H-0029 | ORDER NO.<br>EP-B13H-00031 |
|-----------------------------|----------------------------------|----------------------------|

| ITEM NO.<br>(a) | SUPPLIES/SERVICES<br>(b)   | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|--|----------------------------|-------------|----------------------|---------------|-----------------------------|
|                 | <p>mailbox/address for this request line), as well as to answer routine requests through other channels. The email address for this hotline shall be publicized on the AgSTAR website.</p> <p>The Contractor shall answer technical requests that are received via the AgSTAR "hotline" or referred by EPA. The Contractor shall provide notice of receiving all requests and answers to simple or routine requests within 48 hours of receipt. The Contractor shall provide answers to more in-depth requests within one week of receipt. Requests requiring additional time shall be discussed with the EPA COR. In addition, the Contractor shall provide a monthly summary of these requests to EPA, tabulating the number of requests received, summarizing common topics of the requests, identifying any trends, and noting if certain topics could be addressed on the website (such as through an "FAQ") in order to reduce the number of future requests. The email request line received approximately 25 requests per month during the past year.</p> <p>The Contractor shall also provide support for a limited number of "quick-turnaround" requests from the EPA COR. This generally consists of compiling information available on the AgSTAR website or other program materials into graphs, tables, or concise written summaries in support of a specific request (e.g. number of livestock anaerobic digester projects that have become operational and closed over the last three years or the five most important factors affecting codigestion projects). EPA anticipates that there may be one to two such requests per month.</p> <p>Task 1 Deliverables:<br/>1. Answers to quick turnaround requests<br/>Due: Ongoing; within 24 hours of receipt<br/>Continued ...</p> |                            |             |                      |               |                             |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00



**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO  
4

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|                             |                                  |                            |
|-----------------------------|----------------------------------|----------------------------|
| DATE OF ORDER<br>11/23/2012 | CONTRACT NO.<br>EP-BPA-12-H-0029 | ORDER NO.<br>EP-B13H-00031 |
|-----------------------------|----------------------------------|----------------------------|

| ITEM NO.<br>(a) | SUPPLIES/SERVICES<br>(b)  | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|---|----------------------------|-------------|----------------------|---------------|-----------------------------|
|                 | <p>from EPA COR written direction;</p> <p>2. Answers to routine requests; notice for in-depth requests.<br/>Due: Ongoing; within 48 hours of receipt via website or from EPA COR written direction.</p> <p>3. Answers to in-depth requests<br/>Due: Ongoing; within 1 week of receipt via website or from EPA COR written direction.</p> <p>4. Monthly request summary Monthly, by the 7th of each month</p> <p>Task 2: Maintain AgSTAR Listserv<br/>The AgSTAR email listserv is used to communicate important announcements to AgSTAR stakeholders.</p> <p>The Contractor shall establish and maintain an email listserv for the AgSTAR program. AgSTAR currently has a list of approximately 3000 email addresses for contacts who subscribed to the AgSTAR listserv under contract EP-W-07-067. Under this task order, the Contractor shall include these addresses, as well as provide options for and accommodate requests for subscription or deletion from this list. The Contractor shall periodically draft and send emails to this list concerning important or time-sensitive announcements, such as funding opportunities or upcoming events related to anaerobic digestion. These emails should have a consistent banner or set of banners (headers with images and the AgSTAR logo), reflecting the AgSTAR theme. For purposes of this task order, the Contractor may estimate that two emails may be sent to the entire listserv per month. No content shall be sent to the listserv without final content review and approval by the EPA COR.</p> <p>Continued ...</p> |                            |             |                      |               |                             |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00

**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO  
5

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|                             |                                  |                            |
|-----------------------------|----------------------------------|----------------------------|
| DATE OF ORDER<br>11/23/2012 | CONTRACT NO.<br>EP-BPA-12-H-0029 | ORDER NO.<br>EP-B13H-00031 |
|-----------------------------|----------------------------------|----------------------------|

| ITEM NO.<br>(a) | SUPPLIES/SERVICES<br>(b)  | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|---|----------------------------|-------------|----------------------|---------------|-----------------------------|
|                 | <p>Task 2 Deliverables</p> <p>Establish listserv Within 2 weeks of award</p> <p>2. Maintain listserv</p> <p>Due: Ongoing</p> <p>3. Draft email announcements Within 3 days of written technical direction from EPA COR;</p> <p>4. Finalize and send email</p> <p>Due: Within 2 days of comments &amp; approval from EPA COR written direction.</p> <p>Task 3: Webinar Support</p> <p>AgSTAR regularly communicates with state- and regional- level organizations to exchange information on local and national trends related to anaerobic digestion projects in the livestock sector. For the next 12 months, AgSTAR plans to pilot a series of monthly webinars (one per month) to facilitate this communication.</p> <p>The Contractor shall assist EPA in hosting these webinars by providing the webinar software, providing any needed registration information/services, joining the webinar to provide technical support to attendees who experience problems, and providing a summary of the webinar that includes attendees and a summary of the information discussed. EPA anticipates that the webinars will be one hour in duration and have between 20 and 50 attendees. The EPA COR has a teleconference line that may be used if needed.</p> <p>&amp;#8195;</p> <p>Task 3 Deliverables</p> <p>1. Establish webinar software</p> <p>Due: Within one week of award</p> <p>2. Provide EPA with link to webinar</p> <p>Due: One week before each webinar</p> <p>3. Provide webinar summary</p> <p>Continued ...</p> |                            |             |                      |               |                             |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00

**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO  
6

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|                             |                                  |                            |
|-----------------------------|----------------------------------|----------------------------|
| DATE OF ORDER<br>11/23/2012 | CONTRACT NO.<br>EP-BPA-12-H-0029 | ORDER NO.<br>EP-B13H-00031 |
|-----------------------------|----------------------------------|----------------------------|

| ITEM NO.<br>(a) | SUPPLIES/SERVICES<br>(b)  | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|---|----------------------------|-------------|----------------------|---------------|-----------------------------|
| 0001            | <p>Due: Three days after each webinar</p> <p>Task 4: Management<br/>This task shall provide for management and oversight of all activities being undertaking under this task order. EPA expects that the Contractor shall keep track of the status of all ongoing activities and deliver them on time, without reminder from the EPA COR. The Contractor shall also inform the EPA COR of any issues or problems encountered during the month or anticipated in the upcoming month(s).</p> <p>Admin Office:<br/>HPOD<br/>US Environmental Protection Agency<br/>Ariel Rios Building<br/>1200 Pennsylvania Avenue, N. W.<br/>Mail Code: 3803R<br/>Washington DC 20460</p> <p>Period of Performance: 11/27/2012 to 11/15/2013</p> <p>Administrative Support for the AgSTAR Program.<br/>Requisition No: PR-OAR-13-00042</p> <p>Accounting Info:<br/>12-13-B-58F4-101A46-2505-1358FC3502-00<br/>1 BFY: 12 EFY: 13 Fund: B Budget Org:<br/>58F4 Program (PRC): 101A46 Budget<br/>(BOC): 2505 DCN - Line ID:<br/>1358FC3502-001<br/>Funding Flag: Partial<br/>Funded: \$28,619.00</p> <p>The obligated amount of award: \$28,619.00.<br/>The total for this award is</p> |                            |             |                      | 28,619.00     |                             |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$28,619.00

Call Manager: Allison Costa

Call Title: Global Methane Initiative Agriculture Subcommittee Support

Call 13-197

## **STATEMENT OF WORK**

### **I. BACKGROUND**

The Global Methane Initiative (GMI) is an international partnership of approximately 40 countries that work together to promote methane emissions reductions around the world. It accomplishes this work through sector-based subcommittees focusing on agriculture, coal mines, municipal solid waste, municipal wastewater, and oil and gas systems. The Agriculture Subcommittee (Subcommittee) focuses on methane emissions reductions in the livestock and agro-industrial sectors through the use of anaerobic digestion. More information about the Subcommittee, including its mission statement, current members, and past activities, can be found at:

<http://www.globalmethane.org/agriculture/index.aspx>. The U.S. is one of the three current Subcommittee co-chairs, along with Argentina and India. Working closely with the delegates from these countries and the GMI Administrative Support Group, the U.S. co-chair leads the development of all Subcommittee activities.

### **II. OBJECTIVES**

The objective of this task order is to provide technical support for GMI's Agriculture Subcommittee activities. It will also support other general activities related to GMI's international agricultural activities, such as engagement with organizations such as the Climate and Clean Air Coalition's Agriculture Initiative

(<http://www.unep.org/ccac/Actions/AddressingSLCPsfromAgriculture/tabid/131526/Default.aspx>) or multilateral development bank (World Bank, Asian Development Bank, etc.) events in this sector.

### **III. SPECIFIC TASKS**

#### **Task 1: International Policies and Incentives**

At the GMI Agriculture Subcommittee meeting held in Singapore in July 2012, members of the Subcommittee and Project Network discussed ways to increase participation in the Subcommittee and provide added value to these participants. It was determined that Subcommittee-level projects/activities would accomplish these goals. Participants discussed a number of ideas, including a "Best Practices" guide that would describe different types of anaerobic digesters around the world, benefits of anaerobic digestion projects, policies that promote anaerobic digestion in different countries and financial incentives available for anaerobic digestion projects. Under a previous task order (B13H-00069), the guide *Successful Applications of Anaerobic Digestion from Across the World* was developed to describe the benefits of anaerobic digestion projects and present case studies of these facilities. (It is available at: <https://www.globalmethane.org/documents/GMI%20Benefits%20Report.pdf>). During that same task order, an annotated outline of topics was developed and research was conducted to identify policies and incentives that promote anaerobic digestion in a suite of countries, both GMI member and non-member countries. These countries were selected based on suggestions from Subcommittee participants during the September 2013 Agriculture Subcommittee webinar, the country's involvement in the Subcommittee and/or the prevalence of agricultural anaerobic digestion projects within the country. (The minutes of the webinar are available at:

<https://www.globalmethane.org/documents/GMI%20Ag%20Meeting%20Minutes.pdf>.) The outline and research are attached to this Statement of Work.

EPA will share this work with GMI Agriculture Subcommittee and Project Network members for their feedback in December 2013. Under this Task Order, the Contractor shall conduct a limited amount of additional research to address stakeholder comments (if needed) and develop the final report on policies and incentives used to promote anaerobic digestion projects around the world, which will include an additional opportunity for stakeholder feedback. The final report may be from 10-30 pages long, depending largely on formatting, and will contain, at a minimum, an executive summary of the report, summary information on various policies and incentives, highlights from specific countries, and graphics.

In addition, the Contractor shall develop a plan to promote this resource and implement the plan, upon approval. The plan may include identification of target audience groups, activities to publicize the existence of this guide (such as emails to specific groups or conference presentations by EPA or the Contractor), and the presentation of the information contained in the guide in alternative formats (such as an online searchable tool). It is very important that the information on policies and incentives is kept current so that the information remains useful. Therefore, the plan must include a strategy for updating and adding to the information on policies and incentives over time. For purposes of this task order, the Contractor may estimate the development of the plan, the development of an additional method of presentation of the information, ten “desk-based” outreach activities, one in-person outreach activity, and the maintenance of the information to ensure its relevancy.

#### **Deliverables**

| <i>Deliverable</i>                            | <i>Due Date</i>                                       |
|---|---|
| Address stakeholder comments & develop report | Within 1 month of receipt of comments                 |
| Finalize report                               | Within 2 weeks of comments from EPA COR& stakeholders |
| Develop outreach plan                         | Within 1 month of TO award                            |
| Implement targeted outreach                   | Ongoing, per plan, as approved by EPA COR             |
| Maintain information                          | Ongoing, per plan, as approved by EPA COR             |

#### **Task 2: Data Entry for International AD Database**

The Subcommittee established a database of international AD projects in member countries, which is available on the GMI website at: <http://www.globalmethane.org/activities/indexact.aspx?sector=agri>. The data is submitted throughout the year by Subcommittee members using the template available at: [http://www.globalmethane.org/tools-resources/ag\\_addressresources.aspx](http://www.globalmethane.org/tools-resources/ag_addressresources.aspx). The data is entered into the internal GMI database, CRM (a Salesforce application), which interfaces directly with the website to publish the “public” information.

Information in the database is submitted voluntarily and no new information was provided during FY13. In order to promote the database as a valuable resource, GMI needs to encourage the submission of new information and updating of the current information. Under this task order, the Contractor shall develop and implement an outreach plan to grow the database. This activity should include prioritization of Partner countries for targeted outreach and a survey of any online resources listing project data in other countries. The plan should encompass all Partner countries and the Contractor

shall provide active outreach to the highest-priority countries for information. The Contractor shall also input data received from Subcommittee members into the CRM.

For this task order the Contractor shall estimate that the plan will encompass all current Partner countries that are members of the Agriculture Subcommittee, targeted outreach will be conducted with three countries, and data from approximately 50 sites may be provided during the task order period of performance.

#### **Deliverables**

| <i>Deliverable</i>          | <i>Due Date</i>                           |
|-----------------------------|---|
| Develop outreach plan       | Within 1 month of TO award                |
| Implement targeted outreach | Ongoing, per plan, as approved by EPA COR |
| Input data                  | Within 1 week of receipt of data          |

#### **Task 3: General GMI Agriculture Support**

GMI is an authority on international agriculture methane emissions reductions from livestock and agro-industrial waste management practices, both within EPA and in the broader international community. As such, GMI frequently participates in meetings and responds to requests for information about the program, its practices, and its impact. Through this task order, the Contractor shall provide support for these meetings and requests by providing facts and statistics (available on the website or through queries of the GMI database) in the form of talking points, slides, presentations, or memos. Some of these requests may also involve limited research into “hot topics”, such as the potential for methane emissions reductions from anaerobic digestion at palm oil mills in Indonesia. Sample audiences for the presentations could include Federal management staff, international methane and/or development executives, or multilateral bank staff.

The Contractor shall provide support for a limited number of “quick turnaround” requests from the EPA COR that require assistance within 24 hours. This generally consists of compiling information available on the GMI website or other program materials into graphs, tables, or concise written summaries in support of a specific request (e.g. methane emissions reductions from international GMI agriculture projects over the past ten years).

EPA anticipates that there may be 15 requests. For purposes of this task order, the Contractor may estimate that each request would consist of a half-page of talking points, 2 graphs, and a summary paragraph; or a presentation consisting of 7 slides. EPA anticipates that five of these may be quick turnaround requests.

#### **Deliverables**

| <i>Deliverable</i>                                | <i>Due Date</i>                                  |
|---|--|
| Provide talking points or similar information     | Ongoing; within 5 days of receipt from EPA COR   |
| Provide information for quick turnaround requests | Ongoing; within 24 hours of receipt from EPA COR |

#### **Task 4: Expert Support for International Agriculture Meetings**

The Subcommittee meets at least twice each year, with at least one in-person and one virtual meeting per year. (Virtual refers to webinar-based meetings.) For these meetings, Subcommittee input is requested on topics of interest and the US EPA is responsible for arranging for subject matter experts from around the world to present on these technical topic areas. During this period of performance,

approximately three meetings (two in-person and one virtual) are anticipated. An in-person meeting will be held in Florianopolis, Brazil on 12-13 March 2014 as a joint meeting of the Agriculture, Municipal Solid Waste, and Municipal Wastewater Subcommittees and another will be held as part of the GMI All-Partnership Meeting in the Fall (possibly October 2014) at a location yet to be determined, but likely to be in Serbia, Turkey, or Washington, DC. The Tri-Subcommittee meeting will consist of approximately 25% agriculture-specific topics and 25% cross-cutting topics. The All-Partnership meeting will likely consist of one day of agriculture-specific content and one half-day of cross-cutting content appropriate to the agriculture, municipal solid waste, and municipal wastewater sectors. It is anticipated that a 90-minute webinar would be held in June or July 2014. In addition, GMI's efforts to reduce methane emissions from the agriculture sector are widely recognized and GMI's expertise is often sought for presentations at other international meetings, such as conferences like AD Europe 2014 or workshops sponsored by the Asian Development Bank in Indonesia.

Under this task, the Contractor shall assist in the identification of topics of interest, identification of appropriate speakers, explanation to speakers of expected presentation content, development of presentations for EPA, and, when requested, coordination of travel logistics for selected speakers.

For purposes of this task order, the Contractor shall estimate that speaker identification/coordination may be needed for up to 20 speakers and travel coordination may be required for up to 10 experts from GMI member countries (such as the U.S., Argentina, India or Thailand) to either Europe, Latin America or Asia (such as Rome, Serbia, Brazil or Vietnam). In addition, the Contractor shall be prepared to develop a presentation for EPA staff (lasting approximately 20 minutes) on current Subcommittee activities for each Subcommittee meeting and suggest up to 15 topics for expert presentations at these meetings.

#### **Deliverables**

| <i>Deliverable</i>          | <i>Due Date</i>                                    |
|-----------------------------|--|
| Identify speakers or topics | Within 2 weeks of technical direction from EPA COR |
| Coordinate speaker content  | Ongoing after identification                       |
| Coordinate travel           | Within 2 weeks of technical direction from EPA COR |
| Draft presentation          | Within 3 weeks of technical direction from EPA COR |
| Finalize presentation       | Within 3 days of receipt of comments from EPA COR  |

#### **Task 5: Management**

This task shall provide for management and oversight of all activities being undertaken by this task order. EPA expects that the Contractor shall keep track of the status of all ongoing activities and deliver them on time, without reminder from the EPA COR. The Contractor shall also inform the EPA COR of any issues or problems encountered during the month or anticipated in the upcoming month(s). Finally, the Contractor shall provide a system, such as a web-based project site, to manage and provide version control of in-process deliverables, as well as maintain a calendar with timelines for each task, at a minimum.



**Attachment 1 for Call 13-197**

*The annotated outline provides a framework for the policies and incentives that will be explored and highlighted in the **Anaerobic Digester Policies and Incentives Report**. The research for the annotated outline focused on both Global Methane Initiative (GMI) member and non-member countries. The following GMI member countries were investigated (in alphabetical order): Argentina, Belgium, Brazil, Canada, China, Ethiopia, Finland, Germany, India, Pakistan, Peru, Philippines, Poland, Serbia, Thailand, United Kingdom, and United States. The following non-member countries that were investigated include (in alphabetical order): France, Ireland, Netherlands, New Zealand, South Africa, and Sweden.*

*In coordination with the report, the document “GMI Agriculture Digester Policies and Incentives Report - Research Results Table” (attached with this draft annotated outline) captures information and materials discovered during the investigation and research of policies and incentives that influence anaerobic digester development and use around the world. A brief summary of the information that will be used for each country in the report is provided in the following outline; however, the complete information (along with hyperlinks and/or contact information) is provided in the research results table in Appendix A.*

## **1. Executive Summary**

The executive summary will highlight the international policies and incentives which impact project implementation and the use of anaerobic digesters across the agriculture sector. It will provide examples of countries with established policies and incentives (Belgium, Germany, Sweden, United Kingdom, etc.) and countries that have adopted or are in the process of creating new policies and incentives (China, India, Pakistan, Poland, etc.). The executive summary will also reference and link the findings to the *Anaerobic Digester Benefits Guide*. And will outline and identify lessons learned and best practices to help guide future policies and incentive development that promote anaerobic digester use and benefits.

## **2. Introduction**

### **A. Global Methane Initiative (GMI) Goals**

***Provide a brief overview of GMI*** – GMI is an action-oriented initiative that reduces global methane emissions to enhance economic growth, promote energy security, improve the environment, and reduce greenhouse gas emissions. The Initiative focuses on cost-effective, near-term methane abatement and recovery and use of methane as a clean energy source. This is achieved internationally through collaboration between developed countries, developing countries, and countries with economies in transition—together with strong participation from the private sector.

***Provide a brief overview of the GMI Agriculture Subcommittee*** –The GMI Agriculture Subcommittee aims to build capacity, develop strategies and markets, and remove barriers to methane mitigation project development in order to increase environmental quality, improve rural livelihoods, strengthen economies, and expand opportunities for renewable energy production and use. Additionally, facilitating the development of methane projects will increase energy security, enhance economic growth, improve local air quality, and improve industrial safety. The United States, Argentina and India co-chair this Subcommittee and work closely with delegates from all member countries to achieve its goals.

### **B. Purpose of the Report**

***Discuss the target audience for the report*** – The target of the report is a large, diverse and far-ranging international audience. The report will include relevant and timely advancements in policy development and implementation of government incentives. Specific groups included within the target audience include:

- GMI Partner Country representatives
- GMI Project Network members
- Local, regional and national policy influencers
- Project developers and financing organizations
- Industry representatives
- Nongovernmental organizations
- Universities, academics and researchers

***Outline the objectives of the report*** – The report is intended for widespread distribution and promotion by GMI Partner Countries and Project Network members as it holds significant influencing potential. The primary objectives of this report include, but are not limited to:

- Promoting policy development in both GMI and non-GMI countries, and encouraging national leaders to improve existing policies and incentives.
- Creating a resource library for international policies, programs and incentives that impact anaerobic digester projects.
- Supporting future research and resource development to advance anaerobic digester project development and support beneficial policies and incentives.

### **C. Research Methodology**

***Provide a brief description of the research methodology*** – A comprehensive literature and Internet search was undertaken and several GMI Partner Countries and Project Network members were queried. The research for the report focused on both GMI member and non-member countries. The following GMI member countries were investigated (in alphabetical order): Argentina, Belgium, Brazil, Canada, China, Ethiopia, Finland, Germany, India, Pakistan, Peru, Philippines, Poland, Serbia, Thailand, United Kingdom, and United States. The following non-member countries investigated include (in alphabetical order): France, Ireland, Netherlands, New Zealand, South Africa, and Sweden.

### **D. Current State of Anaerobic Digesters (AD) Around the World**

***Provide the landscape of the current state of AD use around the world*** – Around the world, the implementation of biogas technology occurs in countries where governments have been involved in the subsidy, planning, design, construction, operation, and maintenance of biogas projects. The industry is best developed in Europe. Countries like Denmark, Germany and Sweden promote effective mechanisms to produce biogas from organic wastes by political measurements. In addition, European countries tend to develop larger AD plants that serve many different livestock operators. Asia has the largest number of operating anaerobic digester plants; China and India alone have developed over 6 million anaerobic digesters in the last five year. Many are small-scale anaerobic digesters that use biomethane for the heating and cooking needs of individual rural farming communities. The anaerobic process is also rapidly gaining popularity in Africa and biogas recovery is emerging in other regions of the world as well.

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***Forecast the growth of AD use in the coming decades*** – Despite the dramatic increase in use of anaerobic digestion over the last decade, only a small percentage of on-farm manure is being treated anaerobically. This points to the vast potential that is currently untapped. Reasons for this include obstacles such as the legislative framework, high capital costs to develop, and the lack of economic incentives for potential investors. However, renewable, sustainable energy generation is projected to be the fastest-growing energy sector over the next two decades (International Energy Agency). Price volatility, supply concerns, and the environmental aspects of fossil fuels are expected to accelerate the pace of all non-fossil fuel development. In the current waste-to-energy market, anaerobic digestion offers the most sustainable conversion process.

Because anaerobic digestion technology can be tailored to suit waste streams of all volumes, systems may be sized for use in small family or village farms to larger industrial farms. Coupled with the evolving landscape of policies and incentives, the development and use of agriculture anaerobic digesters will be spurred around the world. It has been predicted that by 2020, the largest volume of produced biogas will come from farms and large co-digestion biogas plants, integrated into the farming and food-processing structures (International Energy Agency).

## **E. Anaerobic Digester (AD) Drivers**

***Describe the role of regulations and incentives in encouraging agricultural AD projects.***

- ***Financial Incentives and Revenues*** – The financial drivers for anaerobic digestion and other renewables are feed-in tariff (FIT), renewable energy credits (REC), renewable heat incentives (RHI), tax exemptions, offsets, etc. With incentives, renewable energy projects become a much more attractive proposition and can be considered for their investment merit in addition to their benefits as an environmentally friendly energy source. Revenue from an anaerobic digestion plant can be achieved through:
  - Selling electricity to the national grid
  - Offsetting electricity and heating bills
  - Feed-in tariffs and other incentives
  - Fees for waste intake and landfill tax savings
- ***Power Generation*** – AD provides the opportunity to produce renewable energy from organic wastes in decentralized sites, producing a methane rich biogas from manure. The driver for power generation is cost avoidance—the use of an anaerobic digester can reduce energy expenses. Biogas and thermal energy production from the digester can be converted into usable energy which can supplant existing electricity, gas and heat usage on the farm. In developing countries, small-scale anaerobic digesters are used to meet the heating and cooking needs of individual rural farming communities.

- *Environment* – The environmental driver for AD is the digestion of wastes that result in the reduction of contaminated ground water, surface water, and other resources. Anaerobic digesters are designed and built to avoid odor, to properly accommodate sludge and effluent substrate, and to use organic waste as efficiently as possible. Anaerobic digestion effectively destroys such harmful pathogens (i.e., E. Coli and M. avium paratuberculosis). Effluent from biogas digesters can serve as high quality organic fertilizer, by recycling and preserving nutrients (phosphates, nitrates, etc.) and displacing the import or production of synthetic nitrogenous fertilizers. Anaerobic digestion also reduces the volume of wastes and the associated problem of their disposal.

### **3. Regulations / Policies**

#### **A. Current Regulations**

*Provide an overview of the current agriculture and renewable energy regulations and policies that are currently influencing the use of anaerobic digesters.*

##### **I. Direct Agriculture-Related Regulations**

*Provide a brief introduction of the current agriculture-related regulations and policies* – Agriculture and livestock production affect numerous waste streams; therefore, most environmental and agriculture agencies have a suite of policies and regulations. Many components of an on-farm anaerobic digestion project will involve several of those waste streams. Waste discharges are categorized as solid waste discharges, effluent, or air emissions and waste discharged to the environment (e.g., directly to land, water, or air) requires authorization.

Most of the waste discharges from an on-farm anaerobic digestion project can be managed to avoid direct discharges to the environment, such as effluent discharged to a sewer system (and subsequently treated at a wastewater treatment plant) or solid waste disposed of at an authorized landfill. Some waste discharges (e.g., the air emissions from biogas combustion) cannot be completely eliminated through management. However, they can be mitigated through treatment (e.g., installation of pollution control devices). In a waste discharge authorization application, it is important to identify and quantify all waste discharges to the environment and describe what actions will be taken to manage those discharges.

In accordance with their regulations, several countries have created best management practices (BMP), or similar guidelines, to assist with monitoring and reporting requirements. The BMPs typically include plans for feedstock collection, handling and storage, as well as recommendations for digestate storage and strategies for the reduction of odors and fugitive dust.

**a. Air Emissions from Farms**

*Discuss regulations regarding the release and impact of various air emissions (e.g. methane, sulfur, etc.) from agriculture operations* – Agriculture contributes significantly to emissions of greenhouse gases and other pollutants. The air pollutants emitted from manure include methane, nitrous oxide, ammonia, hydrogen sulfide, volatile organic compounds (VOC), and particulate matter, which can cause serious environmental concerns and health problems.

Digesters are not emissions-free. ADs have the potential to generate air contaminants either directly via the digestion process, or indirectly via the combustion of the gas generated from the AD. The potential discharges are air emissions from the flare, boiler and biogas upgrading or cogeneration equipment,

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**b. Water Emissions**

*Regulations regarding the release and impact of various water emissions (nitrogen, phosphorous, etc.) from agriculture operations* – The effluent from an AD have the potential to impact ground water and surface water quality if improperly

managed. The final output from anaerobic digestion systems is water, which originates both from the moisture content of the original waste that was treated and water produced during the microbial reactions in the digestion systems. This water may be released from the dewatering of the digestate or may be implicitly separate from the digestate. Most countries do not require farming operations to obtain any additional water discharge permits or authorizations for an AD if only manure is being managed in the AD.

**c. Manure Storage**

*Regulations regarding the method or length of time manure must be stored* – Many countries have manure management policies that outline the capture, storage, treatment, and utilization of animal manure in an environmentally sustainable manner. Manure is normally stored in various holding facilities on farms for several months and then used as fertilizer. Manure storage and management is addressed throughout the anaerobic digestion process. Anaerobic digestion has the capacity to improve manure management through the mitigation of odor and nutrient loading. Liquid manure is broken down into biogas and a low-odor effluent. Biogas can be burned to produce heat, electricity or both; the anaerobically-digested manure can be stored and applied to fields with significantly less odor than stored, untreated liquid manure.



#### **d. Nutrient / Fertilizer / Manure Regulations**

*Regulations regarding the timing and application or the amount of nutrients in (e.g., nitrogen and phosphorus) fertilizers – Comprehensive nutrient management plans (CNMP), or similar, have become an integral part of the regulatory permitting and environmental stewardship for animal feeding operations (AFO) of all sizes. A CNMP is developed to assist an animal feeding operation to meet nutrient levels, water quality goals, and regulations. Anaerobic digestion does not reduce the volume or nutrient value of manure. Anaerobic digestion improves manure management through the mitigation of nutrient loading by converting nitrogen and phosphorous to forms easily absorbed by terrestrial plants; reducing the volume of manure produced through evaporative loss; using post-digestion solid-liquid separation to retain phosphorous in the solid waste and nitrogen in the liquid portion; and using other post-digestion technologies to maximize phosphorous extraction.*

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## **II. Renewable Energy-Related Regulations**

***Provide a brief introduction of the current energy-related regulations and policies*** – Most countries have a collection of statutes, regulations, policies, and/or common law to regulate energy production. Many countries have developed or are starting to develop national policies or laws that specifically address renewable energy development and planning, specifically biogas through on-farm anaerobic digestion.

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**a. Renewable Energy Generation Targets**

*Regulations that require a specific amount of renewable energy to be generated* –A government legislated requirement on electricity retailers to source specific proportions of total electricity sales from renewable energy sources according to a fixed timeframe. Many countries (i.e., U.K.'s Anaerobic Digestion Strategy and Action Plan) are specifically targeting on-farm anaerobic digestion that converts manure and organic waste into a methane-rich biogas that can be combusted to generate electricity and heat or converted to biomethane.

At least 67 countries, including 27 European Union (EU) countries have renewable energy policy targets of some type. The EU baseline target is 20% by 2020. The United States also has a national Renewable Energy Target (RET) of 20%. Similarly Canada has nine provincial RETs but no national target. Targets are typically for shares of electricity production, but some are defined as by primary energy supply, installed capacity or otherwise. While some targets were based on 2010-12, many are now for 2020 which ties in with the IPCC suggested greenhouse gas emission cuts of 25 to 40% by Annex I countries by 2020, although some are for 2025. In addition, many countries (particularly in the EU) have RET specific for biogas/biomethane.

**b. Greenhouse Gas (GHG) Emission Reduction Targets**

*Regulations that limit the amount of GHG that can be emitted into the environment* – Many countries have developed a coordinated set of goals and policies to meet greenhouse gas emissions reduction targets. Many of the plans specifically address the use of ADs. Anaerobic digestion plants reduce GHG emissions by capturing the methane that would have been released to the atmosphere from waste during other forms of treatment or disposal and by displacing the fossil fuels that would have been used in the displaced electricity and heat generation.

**c. Country-Level Energy Planning**

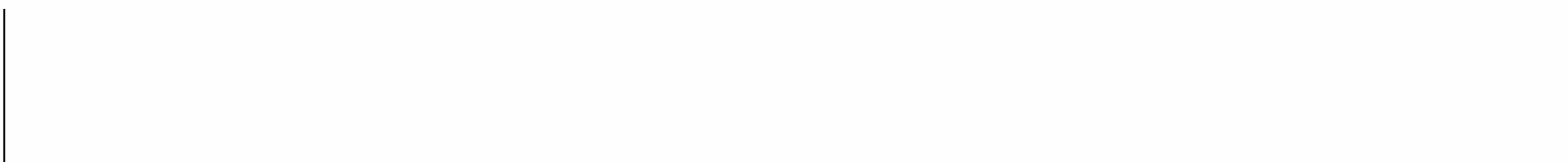
*Government-wide long-term energy planning that takes into account a wide range of environmental issues* – Many countries have developed a comprehensive and holistic way of planning and implementing energy action at the national level. Several countries' plans make a commitment to increasing energy from agriculture livestock manure produced through anaerobic digestion or includes a specific section on biogas.



## **B. International Treaties**

*International treaties that require signatory countries to reduce their environmental impact like the Kyoto Protocol.* The Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC) is an international treaty that sets binding obligations on industrialized countries to reduce emissions of GHGs. The UNFCCC is an environmental treaty with the goal of preventing "dangerous" anthropogenic (i.e., human-induced) interference of the climate system. As part of the Kyoto Protocol, many developed countries have agreed to legally binding limitations/reductions in their emissions of greenhouse gases in two commitments periods. The first commitment period applies to emissions between 2008-2012, and the second commitment period applies to emissions between 2013-2020. The protocol was amended in 2012 to accommodate the second commitment period.





#### 4. Incentives

*What incentives are governments providing to encourage anaerobic digesters?*

The landscape of technology and incentives that enhance the development and use of anaerobic digesters continues to evolve. The increasing number of manure based anaerobic digesters emphasizes the growing role of biogas development. Many different approaches have been tried and are available to meet the multiple challenges and common objectives of anaerobic digesters. Several countries recently made changes to establish new incentives, while other countries are adopting new incentives to enhance their program and encourage anaerobic digester development and use. Several countries are providing financial assistance for identifying cost-effective opportunities for renewable energy measures by agricultural producers and rural farms. Financial support is the primary methods for small farms to fund the installation of proven livestock waste anaerobic digestion systems.



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**A. Feed-in Tariffs**

*A feed-in tariff pays a renewable energy generator a price designed to provide investors a return on their investment for the renewable electricity they supply to the grid* – A renewable energy policy mechanism that typically offers a guarantee of: payments to project owners for total kilowatts of renewable electricity produced; access to the grid; and stable, long-term contracts (15-20 years). Many countries offer feed-in tariffs for biogas.

Feed-in tariffs are the world's most popular renewable energy policy mechanism. Despite the economic recessions around the world, more and more jurisdictions are turning to feed-in tariffs to spur not only renewable energy development, including biogas development through on-farm anaerobic digestion, but also industrial development and the jobs that it creates.

More than 80 jurisdictions around the world now use or have used feed-in tariffs to pay for new renewable generation.

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**B. Renewable Energy Credits (REC) / Renewables Obligation Certificates (ROC)**

*RECs and ROCs represent the property rights to the environmental, social, and other non-power qualities of renewable*

005) GMI Agriculture Subcommittee Support – competitive

*electricity generation.*

**RECs** – The REC System is a voluntary system for international trade in renewable energy certificates to stimulate international development of renewable energy. It advocates the use of a standard energy certificate to provide evidence of the production of a quantity of renewable energy. RECs also provide a methodology which enables renewable energy trade, the creation of a market for renewable energy, and promotes the development of new renewable energy capacity.

**ROCs** – The green certificate issued for eligible renewable electricity generated and supplied to customers by a licensed supplier.



### **C. Renewable Heat Incentives (RHI)**

***RHI incentivizes the generation and use of renewably generated heat*** – The RHI is a payment system for the generation of heat from renewable energy sources. RHI provides cash payments to owners who install renewable heat generation equipment in buildings. Renewable heat is viewed by some as not being as attractive as renewable energy as it cannot be added to the electrical grid or used to fuel a vehicle, and it is difficult to transport. However, the practical and potential use on local farms is possibly more sustainable than



these counterparts. RHI has the potential to be a beneficial renewable option for many local farmers using AD to produce biogas. It is an incentive rather than obligation which highlights its potential as a sustainable option.

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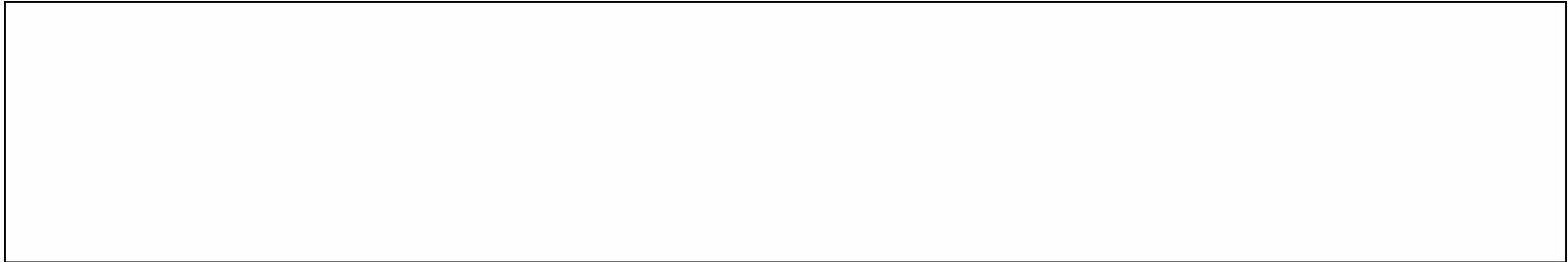
**D. Tax Exemptions**

*An exemption from charges on the use of energy for those that use energy generated from renewable sources* – Renewable energy tax exemptions are incentives for developing and deployment of renewable energy technologies. Their aim is to provide an incentive to increase energy efficiency and to reduce carbon emissions. These incentives would apply to the biogas production through on-farm anaerobic digestion.

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**E. Renewable Transport Fuel Obligations (RTFO)**

*RTFO requires transportation fossil fuel suppliers to produce a percentage of their fuels from sustainable renewable sources or pay a fee* – RTFO obligates fossil fuel suppliers to produce evidence showing that a percentage of fuels for road transport come from renewable sources and are sustainable, or that a substitute amount of money is paid. This includes suppliers of biofuels as well as suppliers of fossil fuel.



**F. Carbon Credits / Carbon Trading Programs**

*A carbon credit represents one ton of carbon dioxide equivalent (CO<sub>2</sub>e) which has been removed, avoided or sequestered. Carbon credits can be traded as commodities.* Carbon credits and carbon markets are a component of national and international attempts to mitigate the growth in concentrations of GHGs. On-farm anaerobic digesters may also be eligible to generate and sell carbon offsets. Carbon offsets are generated when a person voluntarily undertakes a project or action that reduces the amount of GHG emissions entering the atmosphere, prevents GHG emissions from entering the atmosphere, or increases the amount of GHG emissions being taken out of the atmosphere. Anaerobic digestion projects can reduce emissions in two ways, by combusting captured methane gas from organics into the less potent carbon dioxide gas, or by displacing fossil-fuel natural gas consumption through the utilization of biogas or biomethane.

The goal of carbon trading programs is to allow market mechanisms to drive industrial and commercial processes in the direction of low emissions or less carbon intensive approaches than those used when there is no cost to emitting carbon dioxide and other GHGs into the atmosphere.



**G. Nutrient Credits/Nutrient Trading Programs**

*Nutrient credits represent a set amount of nutrients (e.g., nitrogen and phosphorous) that have been removed or avoided from the*

*environment. Nutrient credits can be traded as commodities.* –Anaerobic digestion does not by itself reduce nutrient levels of the given feedstock (though it does reduce volume, odor and pathogen presence, while also breaking down nutrient-laden compounds into forms more readily available to plants). By implementing an AD system for manure that would otherwise be directly land applied, farmers will have also laid the foundation for further nutrient concentration and isolation by means of additional digestate processing equipment. Beyond mere onsite compliance, therefore, is a potential revenue stream in the form of credit sales to other regulated entities.

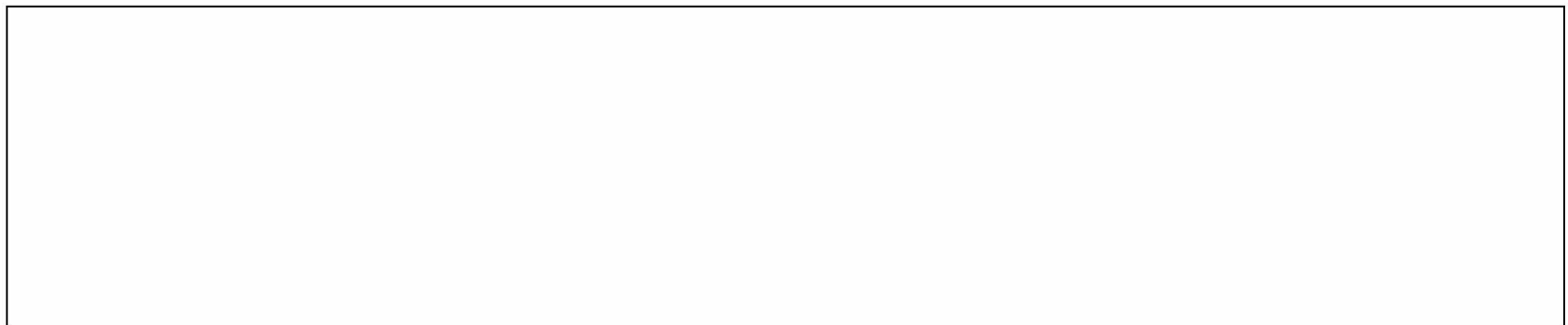


## **5. Other Programs and Research Driving AD Development**

*Examines other policies, organic diversion from landfills or agro-industrial water quality requirements, impact the use of agriculturally based ADs.*

### **A. Organic Diversion from Landfills**

Some local governments are beginning to establish mandatory requirements to divert organic materials from landfills. This can increase the availability of other organic feedstock that can be co-digested with manure. The resultant increase in gas production (or other factors, such as tipping fees) can improve the financial viability of anaerobic digestion projects. Adding other organics to manure enhances methane yield due to positive synergisms established in the digestion medium, bacterial diversities in different wastes and the supply of missing nutrients by the co-substrates.



## B. Agro-Industrial Water Quality Requirements

*Examine the development of partnerships to address agro-industrial water quality issues* – Agro-industry is the industrial processing of agricultural products. Poor water quality in agriculture can lead to degradation of soil quality that reduces crop production and causes trouble for irrigation systems. Countries are investigating the potential negative impact of the agro-industry sector on water quality and the ability to significantly reduced impacts through the introduction of a “cradle-to-cradle” approach to water management. AD plays a role in the regenerative approach across the agro-sector.

Several countries are adopting private-public partnerships as the means to achieve this. The main expected result of the project is the development of a public-private partnership in order to work with agro-industries to engage in water conservation. The expected benefits for agro-industries are: (i) a reduction in freshwater withdrawal and consumption; (ii) the minimization of wastewater discharge by reclaiming wastewater; (iii) the recovery of valuable by-products; (iv) improved profit margins as a result of cost reductions; and (v) enhanced corporate image, public acceptance and environmental responsibility.

## 6. Conclusion

- *In addition to the topics covered in the outline, an effort will be made to identify if there are any scenarios where ADs are successful in the absence of government-level policies and incentives. This information will be analyzed to determine if there are any lessons learned that can be added to the report to provide another avenue for the increased adoption of ADs.*
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- *Provide a brief description of policies that are under development or being considered in different countries that will promote the use of anaerobic digester in the agriculture sector.*

- *Where do we go from here and contact information from GMI website.*



**Appendix A - Research Results Table Call 13-197**  
**GMI Agriculture Subcommittee**  
**Anaerobic Digester Policies and Incentives Report**  
**Final Draft – November 2013**

|                  | Regulations/Policies  | Incentives  | Comments   |
|------------------|---|---|--|
| <b>Argentina</b> | <p>A. Current Regulations</p> <p>I. Direct Agriculture-Related Regulations</p> <p>a. Air Emissions from Farms<br/>N/A</p> <p>b. Water Emissions<br/>N/A</p> <p>c. Manure Storage<br/>Argentinean livestock sector had applied low costs waste treatment systems, if any.</p> <p>Artificial lagoons are the common practice in Argentinean agriculture.</p> <p>d. Nutrient / Fertilizer / Manure Regulations<br/>N/A</p> <p>II. Renewable Energy-Related Regulations<br/>Argentina Climate Change Laws<br/><a href="http://www.rtcc.org/2013/01/29/argentinas-climate-change-laws-in-focus/">http://www.rtcc.org/2013/01/29/argentinas-climate-change-laws-in-focus/</a></p> <p>a. Renewable Energy Generation Targets<br/>Targets installed for solar, hydropower, and wind. Not biogas.</p> <p>The <b>Ministry of Federal Planning, Public</b></p> | <p>What incentives are governments providing to encourage anaerobic digesters?</p> <p>Probiomass (New Program)– supported by the United Nations Food and Agriculture Organization (FAO) and AR Dept. of Energy – Encouraging the use of biomass to produce energy.</p> <p>D. Feed-in Tariffs<br/>Argentina's first Feed-in Tariff Programme was implemented by Law No. 25.019 in the year 1998 and supported particularly electricity from wind and solar resources.</p> <p>But this law didn't work out in promoting renewable energy, first because it only applied to wind and solar energy, excluding other renewable technologies and second the Argentine currency stood at around three times its current value. As a result, the law was replaced by Law 26.190 which was passed on 6<sup>th</sup> December 2006.<br/><a href="http://www.futurepolicy.org/4143.html">http://www.futurepolicy.org/4143.html</a></p> <p>The government plans to hold tenders and offer a feed-in tariff program aimed at small-scale development, but those policies will likely be insufficient to spur enough development to meet the overall goal.<br/><br/><a href="http://www.map.ren21.net/PDF/ProfilePDF.aspx?idcountry=12">http://www.map.ren21.net/PDF/ProfilePDF.aspx?idcountry=12</a><br/>Solar PV and hydropower only. No biogas.</p> <p>E. Renewable Energy Credits (RECs) / Renewables Obligation Certificates (ROCs)<br/>Targets for solar, hydropower, and wind. Not biogas.<br/><a href="http://www.map.ren21.net/PDF/ProfilePDF.aspx?idcountry=12">http://www.map.ren21.net/PDF/ProfilePDF.aspx?idcountry=12</a></p> | <ul style="list-style-type: none"> <li>Argentina is a relatively small emitter of greenhouse gases and, as a non-Annex I country, has no current obligation to reduce its emissions.</li> <li>Despite this, Argentina has initiated a number of policies and measures that will lead to a reduction in emissions of warming gases measured against a business as usual scenario.</li> <li>AR doesn't currently have regulations for</li> </ul> |



|                | Regulations/Policies   | Incentives  | Comments   |
|----------------|--|---|--|
|                | <p><b>Investments and Services</b> launched the <b>Renewable Energy Generation Program</b> (RENGEN) to reach the target of having 8% of total electricity come from renewable sources by 2016. The public utility ENARSA will implement tenders for a total of 1000 MW of electricity produced from renewable sources, a process initiated in early 2010, and purchase this electricity according to Power Purchase Agreements valid for a fifteen-year period.</p> <p><b>b. Greenhouse Gas (GHG) Emission Reduction Targets</b><br/>Voluntary reductions, but no national targets have been put into place.<br/><a href="http://www.epi.org/publication/webfeatures_viewpoints_argentina/">http://www.epi.org/publication/webfeatures_viewpoints_argentina/</a></p> <p><b>c. Country-Level Energy Planning</b><br/>Argentina's sponsored programs are designed to ensure renewable energy plays a larger role in Argentina's future energy mix.<br/><a href="http://www.ev.com/GL/en/Services/Specialty-Services/Climate-Change-and-Sustainability-Services/The-business-case-for-climate-change---Argentina">http://www.ev.com/GL/en/Services/Specialty-Services/Climate-Change-and-Sustainability-Services/The-business-case-for-climate-change---Argentina</a></p> <p><b>B. International Treaties</b><br/>Kyoto Protocol (ratified by Law 25.483)</p> <p><b>C. Other Policy Drivers</b><br/>N/A</p> | <p><b>F. Renewable Heat Incentives (RHI)</b><br/>N/A</p> <p><b>G. Tax Exemptions</b><br/>N/A</p> <p><b>H. Renewable Transport Fuel Obligations (RTFO)</b><br/>N/A</p> <p><b>I. Carbon Credits / Carbon Trading Programs</b><br/><b>Argentine Carbon Fund</b> - A portfolio of more than 70 projects in various sectors, agriculture accounting for 4% of them.<br/><br/><a href="http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=4371&amp;section=home&amp;eod=1">http://www.ecosystemmarketplace.com/pages/dynamic/article.page.php?page_id=4371&amp;section=home&amp;eod=1</a><br/><br/><i>The Argentine Carbon Fund was the first carbon fund launched in the developing world in 2005.</i></p> <p><b>J. Nutrient Credits / Nutrient Trading Programs</b><br/>N/A</p> | <p>anaerobic digesters</p> <ul style="list-style-type: none"> <li>No. of ADs in AR - 30</li> </ul>       |
| <b>Belgium</b> | <p><b>K. Current Regulations</b></p> <p><b>I. Direct Agriculture-Related Regulations</b><br/>Federal Ministry of Agriculture and Small and Medium Sized Business (MMCA)<br/><br/><a href="http://www.un.org/esa/agenda21/natlinfo/countr/belgium/natur.htm#agro">http://www.un.org/esa/agenda21/natlinfo/countr/belgium/natur.htm#agro</a></p>   | <p>What incentives are governments providing to encourage anaerobic digesters?</p> <p><b>N. Feed-in Tariffs</b><br/>The Belgian feed in tariff isn't really a feed in tariff at all. Although it can be calculated as such. After doing the math, it is easy to figure out that only small installations are profitable for the power plant owner.</p>  | <p><b>I.</b> Use Belgium's incentives in the report. Provides good examples of FIT, ROCs, and RTFOs.</p> |

|  | Regulations/Policies   | Incentives  | Comments |
|--|--|---|----------|
|  | <p>a. Air Emissions from Farms<br/> <a href="http://ec.europa.eu/environment/pdf/policy/belgium.pdf">http://ec.europa.eu/environment/pdf/policy/belgium.pdf</a></p> <p>b. Water Emissions<br/> <a href="http://ec.europa.eu/agriculture/envir/report/en/eau/en/report.htm">http://ec.europa.eu/agriculture/envir/report/en/eau/en/report.htm</a></p> <p>c. Manure Storage<br/> Manure testing, manure analysis and manure management plans (also known as comprehensive nutrient management plans, or CNMPs) help enhance production and reduce costs.</p> <p>d. Nutrient / Fertilizer / Manure Regulations<br/> <b>Common Agricultural Policy</b><br/> The <u>Nitrates Directive (1991)</u> aims to protect water quality across Europe by preventing nitrates from agricultural sources polluting ground and surface waters and by promoting the use of good farming practices<br/> <a href="http://ec.europa.eu/environment/water/water-nitrates/">http://ec.europa.eu/environment/water/water-nitrates/</a></p> <p>II. Renewable Energy-Related Regulations<br/> <b>National Renewable Energy Action Plan</b> – Provides detailed roadmaps of how each Member State expects to reach its legally binding 2020 target for the share of renewable energy in their final energy consumption.<br/> <a href="http://ec.europa.eu/energy/renewables/action_plan_en.htm">http://ec.europa.eu/energy/renewables/action_plan_en.htm</a></p> <p>a. Renewable Energy Generation Targets<br/> 100% by 2050 – Final Report<br/> <a href="http://www.vito.be/NR/rdonlyres/A75FFE2E-2191-46BD-A6B7-7C640CFB543C/0/130419_Backcasting_FinalReport.pdf">http://www.vito.be/NR/rdonlyres/A75FFE2E-2191-46BD-A6B7-7C640CFB543C/0/130419_Backcasting_FinalReport.pdf</a></p> | <p>It isn't exactly promising for large scale investors; however the smaller plants at least make installation profitable.<br/> <a href="http://www.solarfeedintariff.net/belgium.html">http://www.solarfeedintariff.net/belgium.html</a></p> <p>O. Renewable Energy Credits (RECs) / Renewables Obligation Certificates (ROCs)<br/> The fine that Belgian electricity suppliers must pay to Wallonia's energy authority for each ROC missing at the end of each accounting period is 100€. Producers of renewable electricity are assured a minimum price of 65€/ROC since Wallonia's energy authority (CWAPE) will buy certificates at this price. The Walloon renewable electricity obligation is 11.25% in 2011. The subsidy for which generators with biomass-fired generation are eligible is 10% of the ROC price.</p> <p>Flanders has a certificate system that is similar to Wallonia's, though ROCs are not linked to avoided CO<sub>2</sub> emissions but to each unit of renewable energy produced.<br/> <a href="http://observer.cartajour-online.com/barosig/Fichiers/BAROSIG/Valeurs_indicateurs/Biom-Belgium-eng.htm">http://observer.cartajour-online.com/barosig/Fichiers/BAROSIG/Valeurs_indicateurs/Biom-Belgium-eng.htm</a></p> <p>P. Renewable Heat Incentives (RHI)<br/> N/A</p> <p>Q. Tax Exemptions<br/> N/A</p> <p>R. Renewable Transport Fuel Obligations (RTFO)<br/> In recent years, jurisdictions and energy directives around the world are demanding that fuels used by transport vehicles include increasing amounts of biofuels. In the United Kingdom, the Renewable Transport Fuel Obligation (RTFO) stipulates that a specified percentage of "road fuels" comes from renewable fuel sources. The RTFO helps align the</p> |          |

|               | Regulations/Policies  | Incentives   | Comments  |
|---------------|---|--|---|
|               | <p>f (touches on bio-mass/agro)</p> <p>b. Greenhouse Gas (GHG) Emission Reduction Targets<br/> <a href="http://www.vito.be/NR/rdonlyres/A75FFE2E-2191-46BD-A6B7-7C640CFB543C/0/130419_Backcasting_FinalReport.pdf">http://www.vito.be/NR/rdonlyres/A75FFE2E-2191-46BD-A6B7-7C640CFB543C/0/130419_Backcasting_FinalReport.pdf</a></p> <p>c. Country-Level Energy Planning</p> <p>L. International Treaties<br/>         Kyoto Protocol -<br/> <a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a></p> <p>M. Other Policy Drivers<br/>         Co-digesting – Many farms in Belgium are co-digesting. The average co-digestion AD system size is 1 MW, processing 60,000 tons of waste, using the heat, and generating electricity. There are numerous nutrient recovery projects to develop fertilizer from digesters and efforts to address policy constraints to applying the digester effluent to land. Researchers and developers are investigating alternative materials to co-digest, including wood cuttings and other community and industrial inputs. There are smaller systems currently operating as manure-only AD systems, and developers are determining what other inputs can be accepted by these systems and how the effluent can be managed.</p> | <p>UK with the European Union Renewable Energy Directive, which outlines transport biofuel targets for all countries in the EU.<br/> <a href="http://www.sgs.be/en/Agriculture-Food/Alternative-Fuels/Renewable-Transport-Fuel-Obligation-RTFO-Verification.aspx">http://www.sgs.be/en/Agriculture-Food/Alternative-Fuels/Renewable-Transport-Fuel-Obligation-RTFO-Verification.aspx</a></p> <p>S. Carbon Credits / Carbon Trading Programs<br/>         Belgian JI/CDM Programme<br/> <br/> <a href="http://cdm-en.ccchina.gov.cn/website/cdm/pdf/Buy/Buy151.pdf">http://cdm-en.ccchina.gov.cn/website/cdm/pdf/Buy/Buy151.pdf</a></p> <p>T. Nutrient Credits / Nutrient Trading Programs<br/>         N/A</p> |   |
| <b>Brazil</b> | <p>U. Current Regulations</p> <p>I. Direct Agriculture-Related Regulations<br/>         Environmental National Programme (part of the program/plan includes opportunities of accessibility to biodigester technology by smaller scale farmers)</p> <p>The Brazilian government created the Ministry of Environment in 1992 in order to develop better strategies of protecting the environment, use natural resources sustainably, and enforce public environmental policies.</p>   | <p>What incentives are governments providing to encourage anaerobic digesters?</p> <p>X. Feed-in Tariffs<br/>         Brazil has no feed in tariff policy.</p> <p>Y. Renewable Energy Credits (RECs) / Renewables Obligation Certificates (ROCs)<br/>         N/A</p>  | <ul style="list-style-type: none"> <li>Environmental National Programme (part of the program/plan includes opportunities of accessibility to biodigester technology by smaller scale</li> </ul> |

|  | Regulations/Policies  | Incentives  | Comments |
|--|---|---|----------|
|  | <p>The Ministry of Environment has authority over policies involving environment, water resources, preservation, and environmental programs involving the Amazon.</p> <p>a. Air Emissions from Farms<br/>Ministry of Environment</p> <p>b. Water Emissions<br/>Ministry of Environment</p> <p>c. Manure Storage<br/>Ministry of Environment</p> <p>d. Nutrient / Fertilizer / Manure Regulations<br/>Ministry of Environment</p> <p>II. Renewable Energy-Related Regulations<br/>The National Policy on Climate Change formalizing the voluntary commitment of Brazil to the UN Framework Convention on Climate Change to reduce emissions of greenhouse gases by 36.1% and 38.9% of projected emissions by 2020.</p> <p>a. Renewable Energy Generation Targets<br/>Brazil to Triple Renewable Energy by 2020<br/>(focused on wind)<br/><a href="http://cleantechnica.com/2011/06/09/brazil-to-triple-renewable-energy-by-2020-focus-on-wind/">http://cleantechnica.com/2011/06/09/brazil-to-triple-renewable-energy-by-2020-focus-on-wind/</a></p> <p>b. Greenhouse Gas (GHG) Emission Reduction Targets<br/>36% by 2020.</p> <p>c. Country-Level Energy Planning<br/>The National Policy on Climate Change formalizing the voluntary commitment of Brazil to the UN Framework Convention on Climate Change to reduce emissions of greenhouse gases by 36.1% and 38.9% of projected emissions by 2020.</p> | <p>Z. Renewable Heat Incentives (RHI)<br/>N/A</p> <p>AA. Tax Exemptions<br/>N/A</p> <p>BB. Renewable Transport Fuel Obligations (RTFO)<br/>N/A</p> <p>CC. Carbon Credits / Carbon Trading Programs<br/>The state of Rio de Janeiro is exploring options to implement a state-wide cap and trade system.</p> <p>DD. Nutrient Credits / Nutrient Trading Programs<br/>N/A</p> | farmers) |

|               | Regulations/Policies   | Incentives  | Comments   |
|---------------|--|---|--|
|               | <p>V. International Treaties<br/>Kyoto Protocol -<br/><a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a></p> <p>W. Other Policy Drivers</p>   |   |  |
| <b>Canada</b> | <p>EE. Current Regulations<br/>Good overview of AD's (and regulations) in BC<br/><a href="http://www.bcuc.com/Documents/Proceedings/2013/DOC_33850_A2-1-Anaerobic-Digestion-Benchmark-Study.pdf">http://www.bcuc.com/Documents/Proceedings/2013/DOC_33850_A2-1-Anaerobic-Digestion-Benchmark-Study.pdf</a></p> <p>I. Direct Agriculture-Related Regulations<br/><b>British Columbia</b><br/><a href="http://www.certifiedorganic.bc.ca/rcbtoa/services/regulations.html">http://www.certifiedorganic.bc.ca/rcbtoa/services/regulations.html</a></p> <p><b>Ontario</b> - Regulatory Requirements for On-Farm Anaerobic Digestion Facilities under Ontario Regulation - Addresses water emissions, manure management, nutrient management.<br/><a href="http://www.omafra.gov.on.ca/english/engineer/facts/nm_ad.htm">http://www.omafra.gov.on.ca/english/engineer/facts/nm_ad.htm</a></p> <p>a. Air Emissions from Farms<br/>Ontario – See Reg Requirements for On-Farm AD Facilities.</p> <p>Ontario's environmental approval for agricultural biogas systems is facilitating the use of off-farm co-substrates and increasing the safety of operations as well as enabling means to address neighbor complaints</p> | <p>What incentives are governments providing to encourage anaerobic digesters?</p> <p>Waiting on additional information about incentives in Ontario from Jennifer Green (<a href="mailto:jgreen@biogasassociation.ca">jgreen@biogasassociation.ca</a>)</p> <p>HH. Feed-in Tariffs<br/><b>Ontario</b> – The feed-in tariff program in Ontario was implemented through the Green Energy and Green Economy Act, on May 14<sup>th</sup> 2009. Ontario's FiT program is North America's first comprehensive guaranteed pricing structure for renewable electricity production<br/><a href="http://www.futurepolicy.org/ontario000.html">http://www.futurepolicy.org/ontario000.html</a> (biogas eligible)</p> <p>The Feed-In Tariff (FIT) program is Ontario's electricity price program for power from renewable energy sources. The FIT program is being deployed by the Ontario Power Authority to support the Green Energy and Green Economy Act. FIT is the next generation of pricing, replacing the former Renewable Energy Standard Offer Program (RESOP). FIT offers a range of prices for electricity from different technologies based on the cost of power production from those systems.<br/><a href="http://www.omafra.gov.on.ca/english/engineer/facts/fit_prog.htm">http://www.omafra.gov.on.ca/english/engineer/facts/fit_prog.htm</a></p> <p>Ontario program have a good FIT program, but there is uncertainty</p> | <p>There is no standardization, or interaction between the Provinces.</p> <p>Ontario's environmental approval for agricultural biogas systems is facilitating the use of off-farm co-substrates and increasing the safety of operations as well as enabling means to address neighbor complaints</p> |

|  | Regulations/Policies  | Incentives   | Comments |
|--|---|--|----------|
|  | <p><a href="http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/03053_00">http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/03053_00</a></p> <p>b. Water Emissions<br/>Ontario - <b>Regulatory Requirements for On-Farm Anaerobic Digestion Facilities under Ontario Regulation</b><br/><a href="http://www.omafra.gov.on.ca/english/engineer/facts/nm_ad.htm">http://www.omafra.gov.on.ca/english/engineer/facts/nm_ad.htm</a></p> <p>c. Manure Storage<br/><a href="http://www.omafra.gov.on.ca/english/engineer/facts/nm_ad.htm">http://www.omafra.gov.on.ca/english/engineer/facts/nm_ad.htm</a></p> <p><i>Agriculture Waste Management Regulations (BC) - <a href="http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/10_131_92">http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/10_131_92</a><br/>Canada has some regulations on manure management, but not enforced in BC YET.</i></p> <p>d. Nutrient / Fertilizer / Manure Regulations<br/><b>Nutrient Management Strategy Requirements</b><br/>(Ontario) - All nutrient management strategies must include a contingency plan. The contingency plan sets out your actions if you cannot follow the components of your nutrient management strategy or nutrient management plan. <u>Part 11</u> of the Nutrient Management Protocol provides direction on what should be included in a contingency plan.</p> <p>Nutrient Management Plan (NMP) are also required in BC.</p> <p>Canadian Ministry of Agriculture and Ministry of Environment together implement the Nutrient Management Act, which regulates land application of farm materials. This regulation is being modified to allow farms to accept up to 50 percent of off-farm materials.</p> | <p>with the program over time</p> <p><b>Nova Scotia</b> –a On 26th July, 2011, standards for Nova Scotia’s new Community Feed-in tariff program were released by Nova Scotia’s Department of Energy to support small-scale locally owned renewable energy projects.</p> <p>Nova Scotia's Community Feed-in Tariff, or ComFIT, was launched September 19<sup>th</sup>, 2011 when the Canadian maritime province opened the application process. Before the tariffs have been reviewed and revised by the Utility and Review Board (UARB).</p> <p><a href="http://www.futurepolicy.org/4148.html">http://www.futurepolicy.org/4148.html</a></p> <p>II. Renewable Energy Credits (RECs) / Renewables Obligation Certificates (ROCs)</p> <p>In North America, consumers in both the United States and Canada have access to green energy via the purchase of renewable energy credits (RECs). Canada has become a leader in purchasing RECs in recent years. This high level of RECs Canada has achieved comes from companies like Bullfrog Power leading the way.</p> <p>Now you have options in Canada: although we are new to the Canada RECs market, we bring the same knowledge, leadership, and preferred pricing to Canada that has made us a top provider to EPA Green Power Partners in the United States.</p> <p>Renewable Choice is dedicated to maintaining a diverse portfolio of the renewable energy credits Canada has employed with projects that include biomass and wind power electricity generation. Every project we support meets stringent environmental standards and does not benefit from regulatory support. Renewable Choice currently supports five different REC projects in Canada</p> |          |

|  | Regulations/Policies   | Incentives   | Comments |
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|  | <p>II. Renewable Energy-Related Regulations<br/>The Renewable Energy Approval (REA) process for biogas systems classifies the biogas systems into three categories based on the type of input material and location. REA outlines the needed setback distances from new biogas systems to the nearest odor receptor, natural feature and water bodies; natural heritage, archaeological and cultural assessment requirements, as well as requirements of public, municipal and aboriginal consultation. Allowances for non-renewable fuel content, financial assurance requirements, and operating criteria for the biogas system are also considered through the process. This approval process has been developed to support the Green Energy and Green Economy Act.</p> <p>a. Renewable Energy Generation Targets<br/><a href="http://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/pdf/publications/emmc/renewable_energy_e.pdf">http://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/pdf/publications/emmc/renewable_energy_e.pdf</a></p> <p>b. Greenhouse Gas (GHG) Emission Reduction Targets<br/>Canada has 9 provincial RETs but no national target.</p> <p>As part of its efforts to address climate change, the Canadian Province of Alberta has introduced legislation to address greenhouse gas emissions in the province: the Climate Change and Emissions Management Act. Alberta has required annual reporting of air emissions since 2003. Facilities that emit more than 100,000 tonnes of GHG a year are required to reduce their emissions intensity by 12 per cent annually. To date, portions of the Act have entered into force. These pertain to the regulations that give authority to Alberta Environment to set targets, enforce mandatory reporting, and emissions intensity reductions.</p> <p>c. Country-Level Energy Planning<br/>N/A</p> | <p>JJ. Renewable Heat Incentives (RHI)<br/>N/A</p> <p>KK. Tax Exemptions<br/>N/A</p> <p>LL. Renewable Transport Fuel Obligations (RTFO)<br/>N/A</p> <p>MM. Carbon Credits / Carbon Trading Programs<br/>Canada does not have a federal carbon tax, but two Canadian provinces have existing carbon taxes (Quebec and British Columbia). Alberta implemented emissions trading in 2006 and Quebec's scheme will start in 2013. A further two provinces, British Columbia and Ontario, are considering emissions trading schemes. The Canadian Federal Government has no immediate plans to implement national emissions trading..</p> <p>Carbon Tax Act (BC) –<br/><a href="http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_08040_01">http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_08040_01</a></p> <p>NN. Nutrient Credits / Nutrient Trading Programs<br/>See “Up and Coming” Policies <a href="http://www.elaws.gov.on.ca/html/source/regs/english/2013/elaws_src_regs_r13284_e.htm">http://www.elaws.gov.on.ca/html/source/regs/english/2013/elaws_src_regs_r13284_e.htm</a></p> |          |



|  | Regulations/Policies  | Incentives | Comments |
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|  | <p>FF. International Treaties<br/>N/A (Renounced Kyoto)</p> <p>GG. Other Policy Drivers<br/>BC is working on the creation of the "BC Centre for BioResource Innovation" which will bring Agriculture and agri-foods together with bioenergy, biochemicals, sustainable building products, Forestry and more. Technical harmonization and systems integration is the mission.</p> <p>Up Coming Changes – The Ontario government is giving farmers the opportunity to increase biogas production.</p> <p>Changes to Ontario Regulation 267/03 under the Nutrient Management Act, 2002 (NMA) will streamline approvals for on-farm anaerobic digestion facilities that treat up to 50 per cent off-farm materials. (Off-farm materials include organic waste materials from food processing and feed production.) The changes now allow these facilities to be regulated under the NMA, reducing approval times and costs while continuing to meet environmental protection requirements.</p> <p>Increasing the amount of off-farm materials allowable under the Regulation improves the economics of operating anaerobic digestion systems. This promotes the growth of the biogas sector. On-farm anaerobic digestion systems treat manure and other organic materials, which reduces pathogens and odors. In addition, Ontario's food processors will benefit by having another way to manage organic byproducts.</p> <p>Additional requirements were added to the Regulation to help reduce noise and odor impacts that may result from treating greater volumes of off-farm materials. These include:</p> <ul style="list-style-type: none"> <li>• extra equipment to prevent spills and minimize odor</li> <li>• setback distances for certain facilities</li> <li>• operational controls, such as specific daytime hours for receiving shipments of off-farm materials</li> </ul> |            |          |

|       | Regulations/Policies   | Incentives   | Comments |
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|       | <p>These regulatory changes fulfill a commitment that the Ontario government made to increase renewable energy generation, reduce greenhouse gas emissions, and foster innovation and economic opportunities in rural Ontario.</p> <p>The changes came into effect on October 25, 2013. You can read the complete regulation <a href="http://www.e-laws.gov.on.ca/html/source/regs/english/2013/elaws_src_regs_r13284_e.htm">here</a>. <a href="http://www.e-laws.gov.on.ca/html/source/regs/english/2013/elaws_src_regs_r13284_e.htm">http://www.e-laws.gov.on.ca/html/source/regs/english/2013/elaws_src_regs_r13284_e.htm</a></p>   |  |          |
| China | <p>OO. Current Regulations</p> <p>I. Direct Agriculture-Related Regulations</p> <p>National Modern Agriculture Development Plan<br/> <a href="http://english.agri.gov.cn/hottopics/five/201304/t20130421_19482.htm">http://english.agri.gov.cn/hottopics/five/201304/t20130421_19482.htm</a> (addresses biogas development...no specific mention of AD though)</p> <p>Local governments were directed to include biogas as an important item in farm capital construction, and in the national plan a portion of the country's cement resources was allocated for digesters. A State Leading Group on Biogas was established with representatives from various ministries, and day-to-day operations were delegated to the State Office of Biogas Utilization and Popularization. Biogas leading groups were set up in the provinces, municipalities, and autonomous regions, as well as in their subordinate counties and cities. Today the administrative network from the central government to the local government includes about 3,640 departments</p> | <p>What incentives are governments providing to encourage anaerobic digesters?</p> <p>Biogas construction in rural area, for biomass utilization.</p> <p>Favorable taxes:</p> <ul style="list-style-type: none"> <li>-VAT refund for straw gasification, and landfill gas</li> <li>-Income tax reduction by 10% for straw gasification</li> <li>-Deduct income tax and VAT for some biogas projects</li> </ul> <p>RR. Feed-in Tariffs</p> <p>Yes, The law provides for a feed-in tariff for renewable technologies and established grid feed-in requirements, as well as established cost-sharing mechanisms that evenly distributed the incremental cost of new energy sources among utility users—all crucial components to promote livestock biogas projects in the Chinese countryside.</p> <p>The biogas plant in Deqingyuan is to produce electricity for grid</p> |          |

|  | Regulations/Policies  | Incentives  | Comments |
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|  | <p>and agencies. "The state biogas promotion offices play a crucial role in arranging technician training programs, arranging for necessary materials, extending bank loans, sponsoring biogas research, and preparing technical literature." A subsidy of 1,000 yuan (about US\$150) was offered for each digester.</p> <p>a. Air Emissions from Farms<br/>National Modern Agriculture Development Plan</p> <p>b. Water Emissions<br/>Water Law of the People's Republic of China 2009<br/><a href="http://english.agri.gov.cn/governmentaffairs/lr/comp/201304/t20130423_19505.htm">http://english.agri.gov.cn/governmentaffairs/lr/comp/201304/t20130423_19505.htm</a><br/><br/>National Modern Agriculture Development Plan</p> <p>c. Manure Storage<br/>National Modern Agriculture Development Plan<br/><a href="http://www.sainonline.org/SAIN-website(English)/pages/News/manure%20management.html">http://www.sainonline.org/SAIN-website(English)/pages/News/manure%20management.html</a></p> <p>d. Nutrient / Fertilizer / Manure Regulations<br/>National Modern Agriculture Development Plan</p> <p>II. Renewable Energy-Related Regulations<br/><b>China Renewable Energy Law</b><br/>The policy drivers to support biogas generation in China are quite similar to Germany (see box I). The awareness, that biogas plants are not only contributing to environmental protection, but seriously can supply energy, was promoted after the China Renewable Energy Law (NDRC, 2006) was enacted. Renewable energies derived from wind turbines, hydropower, solar, geothermic, and biomass (solid and liquid bio-fuels and biogas) shall reach 15% in the overall primary energy mix in 2020.</p> | <p>connection, receiving feed-in tariff support according to the Renewable Energy Law. <a href="http://www.biogas-china.org/index.php?option=com_flexicontent&amp;view=category&amp;cid=19&amp;Itemid=34&amp;lang=en">http://www.biogas-china.org/index.php?option=com_flexicontent&amp;view=category&amp;cid=19&amp;Itemid=34&amp;lang=en</a></p> <p>SS. Renewable Energy Credits (RECs) / Renewables Obligation Certificates (ROCs)<br/>N/A</p> <p>TT. Renewable Heat Incentives (RHI)<br/>N/A</p> <p>UU. Tax Exemptions<br/>N/A</p> <p>VV. Renewable Transport Fuel Obligations (RTFO)<br/>N/A</p> <p>WW. Carbon Credits / Carbon Trading Programs<br/>The Chinese Government plans to develop emissions trading schemes in seven key cities and provinces from 2013. These schemes will cover around 250 million people. The Chinese Government aims to work towards a nation-wide approach after 2015.</p> <p>XX. Nutrient Credits / Nutrient Trading Programs<br/>N/A</p> |          |

|  | Regulations/Policies  | Incentives | Comments |
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|  | <p><b>a. Renewable Energy Generation Targets</b><br/> China has set the goal of attaining one percent of its renewable energy generation through bioenergy in 2020.<br/> <a href="http://www.biogas-china.org/index.php?option=com_flexicontent&amp;view=category&amp;cid=19&amp;Itemid=34&amp;lang=en">http://www.biogas-china.org/index.php?option=com_flexicontent&amp;view=category&amp;cid=19&amp;Itemid=34&amp;lang=en</a></p> <p><b>b. Greenhouse Gas (GHG) Emission Reduction Targets</b><br/> Yes, 40% by 2020<br/> <a href="http://www.biogas-china.org/index.php?option=com_flexicontent&amp;view=category&amp;cid=19&amp;Itemid=34&amp;lang=en">http://www.biogas-china.org/index.php?option=com_flexicontent&amp;view=category&amp;cid=19&amp;Itemid=34&amp;lang=en</a></p> <p>Specific to biogas<br/> <a href="http://www.globalbioenergy.org/fileadmin/user_upload/gbep/docs/AG2/Regional_Forum_Bogor_China.pdf">http://www.globalbioenergy.org/fileadmin/user_upload/gbep/docs/AG2/Regional_Forum_Bogor_China.pdf</a></p> <p><b>c. Country-Level Energy Planning</b><br/> <b>China Sustainable Energy Program</b><br/> In March 1999, after a series of meetings and consultations with scientists, policy-makers, business leaders, and analysts in China and the United States, the staff and boards of The David and Lucile Packard Foundation and The Energy Foundation launched the China Sustainable Energy Program. The William and Flora Hewlett Foundation joined as a funding partner in 2002, and other major donors joined in 2006.<br/> <a href="http://www.efchina.org/FHome.do">http://www.efchina.org/FHome.do</a></p> <p>PP. International Treaties<br/> Kyoto Protocol -<br/> <a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a></p> <p>QQ. Other Policy Drivers</p> |            |          |
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|                 | Regulations/Policies   | Incentives  | Comments |
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| <b>Ethiopia</b> | <p>YY. Current Regulations</p> <p>I. Direct Agriculture-Related Regulations</p> <p>a. Air Emissions from Farms<br/>N/A</p> <p>b. Water Emissions<br/>N/A</p> <p>c. Manure Storage<br/>N/A</p> <p>d. Nutrient / Fertilizer / Manure Regulations<br/>N/A</p> <p>II. Renewable Energy-Related Regulations<br/> <a href="http://www.reegle.info/policy-and-regulatory-overviews/ET">http://www.reegle.info/policy-and-regulatory-overviews/ET</a></p> <p>a. Renewable Energy Generation Targets<br/>         Biomass fuels account for nearly 90% of all energy consumed in the country.<br/> <a href="https://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/SREP_Ethiopia.pdf">https://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/SREP_Ethiopia.pdf</a></p> <p>b. Greenhouse Gas (GHG) Emission Reduction Targets</p> <p>c. Country-Level Energy Planning<br/> <b>Green Economy Plan</b><br/>         Aims in building a Climate Resilient Green Economy by the year 2025. In doing these, the strategy has identified six sectors for green economy (under mitigation) and adaptation. Agriculture is one of the sectors identified both under mitigation and adaptation efforts.<br/> <a href="http://www.climate-agriculture.org/en/Ethiopia.aspx">http://www.climate-agriculture.org/en/Ethiopia.aspx</a><br/> <b>Strong focus on agriculture.</b><br/><br/> <a href="http://www.undp.org/content/dam/ethiopia/docs/Et">http://www.undp.org/content/dam/ethiopia/docs/Et</a></p> | <p>What incentives are governments providing to encourage anaerobic digesters?</p> <p><b>National Biogas Program of Ethiopia (NBPE)</b><br/>         The NBPE is part of an Africa-wide program for large-scale deployment of domestic biogas. The program was launched in 2008 with the goal of disseminating 14,000 domestic biodigesters in five years. It is implemented in four regional states of Ethiopia which account for 85% of the total population. The NBPE is implemented by a national coordinating office and four regional project offices. The program is supported by the Netherlands development organization SNV and installed 1,400 units by June 2011.</p> <p>The background to this program is that Ethiopia is home to the largest cattle population in Africa (50 million heads of cattle and 50 million other livestock), as well as being one of the most biomass-energy dependent countries in the world. Ethiopia has 88 million people each requiring about 1 ton of biomass fuel annually. This puts heavy pressure on resources which have become less accessible as demand exceeds sustainable yields. Multiple benefits are expected from the introduction of bio-digesters into rural Ethiopia, including improving access to sustainable energy, improving the indoor environment, increasing the availability of natural fertilizer, and the reduction of greenhouse gas emission from combustion of non-renewable wood fuels. The program has installed 1,500 units to date.<br/> <a href="http://www.reegle.info/policy-and-regulatory-overviews/ET">http://www.reegle.info/policy-and-regulatory-overviews/ET</a></p> <p>BBB. Feed-in Tariffs<br/>         A draft energy feed-in tariff proclamation, which lets the private sector contribute power to the national system was presented to the Council of Ministers by the Ministry of Water and Energy Resources (MWER). The draft bill was prepared and submitted to the MWER by the Ethiopian Electric Agency (EEA). The draft tariff sets rates for private power suppliers producing electricity from different sources such as wind power, hydroelectric and biomass. The lack of a Power Tariff Law has meant that independent companies have never attempted to invest in producing energy</p> <p>CCC. Renewable Energy Credits (RECs) / Renewables Obligation Certificates (ROCs)<br/>         N/A</p> |          |

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|                | <p><a href="#">hiopia%20CRGE.pdf</a></p> <p><a href="http://www.uncsd2012.org/content/documents/287CRGE%20Ethiopia%20Green%20Economy_Brochure.pdf">http://www.uncsd2012.org/content/documents/287CRGE%20Ethiopia%20Green%20Economy_Brochure.pdf</a></p> <p>ZZ. International Treaties<br/>Kyoto Protocol -<br/><a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a></p> <p>AAA. Other Policy Drivers<br/>The <b>Horn of Africa Regional Environment Centre and Network (HoA-REC&amp;N)</b> focuses on environmental concerns and sustainable development options within the Horn of Africa. The Centre is an autonomous institution under Addis Ababa University. It facilitates, strengthens and advocates for initiatives related to environmental conservation and natural resource management.<br/><a href="http://www.hoarec.org/">http://www.hoarec.org/</a></p> | <p>DDD. Renewable Heat Incentives (RHI)<br/>N/A</p> <p>EEE. Tax Exemptions<br/>N/A</p> <p>FFF. Renewable Transport Fuel Obligations (RTFO)<br/>N/A</p> <p>GGG. Carbon Credits / Carbon Trading Programs<br/>N/A</p> <p>HHH. Nutrient Credits / Nutrient Trading Programs<br/>N/A</p>  |          |
| <b>Finland</b> | <p>III. Current Regulations</p> <p>I. Direct Agriculture-Related Regulations<br/><b>Common Agricultural Policy</b><br/>As a member of the European Union, agriculture is covered by the Common Agricultural Policy.</p> <p>a. Air Emissions from Farms<br/><b>Common Agricultural Policy</b></p> <p>b. Water Emissions<br/><b>Common Agricultural Policy</b></p> <p>c. Manure Storage<br/><b>Common Agricultural Policy</b></p> <p>d. Nutrient / Fertilizer / Manure Regulations</p>  | <p>What incentives are governments providing to encourage anaerobic digesters?<br/>Provides subsidies for biogas investments and research projects -<br/><a href="http://www.tem.fi/en">http://www.tem.fi/en</a><br/><a href="https://www.globalmethane.org/expo-docs/canada13/ag_05Finland.pdf">https://www.globalmethane.org/expo-docs/canada13/ag_05Finland.pdf</a></p> <p>LLL. Feed-in Tariffs<br/>Yes. Tariff is paid to power plants using biogas from biogas reactors (not biogas from landfills)<br/><a href="http://www.nordicenergyperspectives.org/Kiviluoma_Feedintariff_Finland.pdf">http://www.nordicenergyperspectives.org/Kiviluoma_Feedintariff_Finland.pdf</a></p> <p>A new RES-E support scheme in Finland entered into force 1<sup>st</sup> January 2011. The main support instrument for RES-E is a feed-in premium. (Biogas eligible)<br/><a href="http://www.futurepolicy.org/2659.html">http://www.futurepolicy.org/2659.html</a></p> |          |

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|  | <p><b>Common Agricultural Policy</b><br/> The <u>Nitrates Directive (1991)</u> aims to protect water quality across Europe by preventing nitrates from agricultural sources polluting ground and surface waters and by promoting the use of good farming practices<br/> <a href="http://ec.europa.eu/environment/water/water-nitrates/">http://ec.europa.eu/environment/water/water-nitrates/</a></p> <p>II. Renewable Energy-Related Regulations<br/> <b>National Climate and Energy Strategy</b><br/> <a href="http://www.tem.fi/en">http://www.tem.fi/en</a></p> <p>a. Renewable Energy Generation Targets<br/> <b>National Renewable Energy Action Plan</b> – Provides detailed roadmaps of how each Member State expects to reach its legally binding 2020 target for the share of renewable energy in their final energy consumption.<br/> <a href="http://ec.europa.eu/energy/renewables/action_plan_en.htm">http://ec.europa.eu/energy/renewables/action_plan_en.htm</a></p> <p>b. Greenhouse Gas (GHG) Emission Reduction Targets<br/> Yes</p> <p>c. Country-Level Energy Planning<br/> <b>National Climate Strategy</b> of 2001, updated in 2005 and 2008 - The strategy provides the basis for policy preparation, decision-making and negotiations on national, EU and international levels. In its most recent adaptation, the strategy focuses on setting guidelines up to 2020 and a vision as far as 2050 to steer long-term planning.</p> <p>Part of the Strategy includes the use of agricultural biomass and biogas as fuels will be increased.</p> <p>III. International Treaties<br/> Kyoto Protocol -<br/> <a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a></p> | <p>The feed-in tariff scheme for electricity has been designed to increase the use of renewable energy sources in electricity production. The EU has set a requirement for Finland to achieve an increase in renewable energies whereby they will account for 38% of final consumption by the end of 2020.<br/> <a href="http://www.energiainfo.fi/alaivu.asp?gid=445&amp;languageid=826">http://www.energiainfo.fi/alaivu.asp?gid=445&amp;languageid=826</a><br/> <a href="http://www.futurepolicy.org/2659.html">http://www.futurepolicy.org/2659.html</a></p> <p><b>Ministry of Employment and the Economy - National Climate and Energy Strategy (link to Feed-in Tariffs)</b> - provides subsidies to bigger biogas plants: feed-in tariff or energy aid for investments<br/> <a href="http://www.tem.fi/en/energy/renewable_energy_sources/feed-in_tariff_of_renewable_energy">http://www.tem.fi/en/energy/renewable_energy_sources/feed-in_tariff_of_renewable_energy</a></p> <p>MMM. Renewable Energy Credits (RECs) / Renewables Obligation Certificates (ROCs)<br/> N/A</p> <p>NNN. Renewable Heat Incentives (RHI)<br/> N/A</p> <p>OOO. Tax Exemptions<br/> N/A</p> <p>PPP. Renewable Transport Fuel Obligations (RTFO)<br/> N/A</p> <p>QQQ. Carbon Credits / Carbon Trading Programs<br/> The European Union emissions trading scheme began in 2005 and now covers the 27 countries of the European Union, and three non-European Union members: Iceland, Liechtenstein, and Norway. Their current target is a 21 per cent cut of 2005 emissions by 2025 (Australia's is a 5% cut of 2000 emissions by 2020).</p> <p>A carbon tax was proposed by the European Commission in 2010, but</p> |          |



|         | Regulations/Policies  | Incentives  | Comments  |
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|         | <p>KKK. Other Policy Drivers</p>  | <p>a carbon tax has not been agreed upon by the 27 member states. The current proposal by the European Commission would charge firms between 4 and 30 euros per metric tonne of CO<sub>2</sub>.</p> <p>Several European countries have enacted a carbon tax. They include: Denmark, Finland, Ireland, the Netherlands, Norway, Slovenia, Sweden, Switzerland, and the UK.</p> <p><b>Ministry of Employment and the Economy – National Climate and Energy Strategy (link to Energy Tax)</b><br/>Finland introduced the world's first carbon tax in 1990, initially with exemptions for specific sectors. Manly changes were later introduced, such as a border tax on imported electricity. Natural gas has a reduced tax rate, while peat was exempted between 2005 and 2010. In 2010, Finland's price on carbon was €20 per tonne of CO<sub>2</sub><br/><a href="http://www.tem.fi/en/energy/renewable_energy_sources/energy_tax_es">http://www.tem.fi/en/energy/renewable_energy_sources/energy_tax_es</a>.</p> |   |
| Germany | <p>RRR. Current Regulations</p> <p>I. Direct Agriculture-Related Regulations<br/><b>Common Agricultural Policy</b><br/>As a member of the European Union, agriculture is covered by the Common Agricultural Policy.</p> <p>a. Air Emissions from Farms<br/><b>Common Agricultural Policy</b></p> <p>b. Water Emissions<br/><b>Common Agricultural Policy</b></p> <p>c. Manure Storage<br/><b>Common Agricultural Policy</b></p> <p>d. Nutrient / Fertilizer / Manure Regulations<br/><b>Common Agricultural Policy</b><br/>The <u>Nitrates Directive (1991)</u> aims to protect water</p> | <p>What incentives are governments providing to encourage anaerobic digesters?<br/>Germany has radically changed their incentives and regulations for new digesters that will seriously slow the growth.</p> <p>UUU. Feed-in Tariffs<br/>Electricity for renewable sources is supported through a feed-in tariff. The criteria for eligibility and the amount of tariff are set out in the Act on Granting Priority to Renewable Energy Sources (EEG).</p> <p>According to the EEG which came into force on 29<sup>th</sup> March 2000, operators of renewable energy systems are statutorily entitled against the grid operator to payments for electricity exported to the grid.</p> <p>The latest version of the <b>Renewable Energy Sources Act</b> went into effect on 1<sup>st</sup> January 2012.</p> <p>Biogas plants must meet a minimum requirement for amount generated by combined heat and power (CHP): 60% for biomethane</p>   | <ul style="list-style-type: none"> <li>Germany has radically changed their incentives and regulations (100day retention time, and 80% manure requirement for small digesters, etc.) for new digesters that will seriously slow the growth.</li> <li>Waiting on additional information from PlanET.</li> </ul> |

|  | Regulations/Policies   | Incentives   | Comments |
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|  | <p>quality across Europe by preventing nitrates from agricultural sources polluting ground and surface waters and by promoting the use of good farming practices<br/> <a href="http://ec.europa.eu/environment/water/water-nitrates/">http://ec.europa.eu/environment/water/water-nitrates/</a></p> <p>II. Renewable Energy-Related Regulations<br/> <b>National Renewable Energy Action Plan</b> – Provides detailed roadmaps of how each Member State expects to reach its legally binding 2020 target for the share of renewable energy in their final energy consumption.<br/> <a href="http://ec.europa.eu/energy/renewables/action_plan_en.htm">http://ec.europa.eu/energy/renewables/action_plan_en.htm</a></p> <p>a. Renewable Energy Generation Targets<br/> 45% by 2030<br/> <a href="http://www.worldwatch.org/node/5430">http://www.worldwatch.org/node/5430</a></p> <p>Renewable Energy Act -<br/> <a href="http://energytransition.de/2012/10/renewable-energy-act-with-feed-in-tariffs/">http://energytransition.de/2012/10/renewable-energy-act-with-feed-in-tariffs/</a></p> <p>b. Greenhouse Gas (GHG) Emission Reduction Targets<br/> Yes</p> <p>c. Country-Level Energy Planning<br/> Germany's New Energy Policy<br/> <a href="http://www.bmwi.de/English/Redaktion/Pdf/german-vs-new-energy-policy.property=pdf.bereich=bmwi.sprache=en.rwb=true.pdf">http://www.bmwi.de/English/Redaktion/Pdf/german-vs-new-energy-policy.property=pdf.bereich=bmwi.sprache=en.rwb=true.pdf</a></p> <p>SSS. International Treaties<br/> Kyoto Protocol -<br/> <a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a></p> <p>TTT. Other Policy Drivers<br/> <b>Replacing coal with biomass in pulverised coal-fired</b></p> | <p>plants and 100% for bio-waste plants, or if the amount of manure used is at least 60 mass percent<br/> <a href="http://www.futurepolicy.org/2655.html">http://www.futurepolicy.org/2655.html</a></p> <p>Only eligible if a minimum of 60% was generated by CHP. Liquid biomass is ineligible.<br/> Renewable Energy Act -<br/> <a href="http://energytransition.de/2012/10/renewable-energy-act-with-feed-in-tariffs/">http://energytransition.de/2012/10/renewable-energy-act-with-feed-in-tariffs/</a></p> <p>VVV. Renewable Energy Credits (RECs) / Renewables Obligation Certificates (ROCs)<br/> N/A</p> <p>WWW. Renewable Heat Incentives (RHI)<br/> N/A</p> <p>XXX. Tax Exemptions<br/> N/A</p> <p>YYY. Renewable Transport Fuel Obligations (RTFO)<br/> N/A</p> <p>ZZZ. Carbon Credits / Carbon Trading Programs<br/> The European Union emissions trading scheme began in 2005 and now covers the 27 countries of the European Union, and three non-European Union members: Iceland, Liechtenstein, and Norway. Their current target is a 21 per cent cut of 2005 emissions by 2025 (Australia's is a 5% cut of 2000 emissions by 2020).</p> <p>A carbon tax was proposed by the European Commission in 2010, but a carbon tax has not been agreed upon by the 27 member states. The current proposal by the European Commission would charge firms between 4 and 30 euros per metric tonne of CO2.</p> <p>Several European countries have enacted a carbon tax. They include:</p> |          |

|       | Regulations/Policies   | Incentives  | Comments   |
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|       | <p><b>combined heat and power plants</b> - Commissioned by the Ministry of Employment and the Economy, VTT Technical Research Centre of Finland has examined technology options for replacing coal with various types of biomass in pulverised coal-fired combined heat and power plants (sawdust, forest chips, agrobiomass) and biomass-based upgraded solid, liquid or gaseous fuels, like pellets, bio-oils, biochar and biomass-based synthetic natural gas. According to the report, the possibilities of replacing coal at different power plants, and the costs incurred, vary greatly. Likewise, the availability and price of biomass fuels vary significantly in different localities.</p> <p>The study estimates that by 2015, about 6 TWh of coal could be replaced with biomass fuels. The use of coal will decrease once the planned waste incineration plants and multifuel power plants have been completed. The annual consumption of coal totalled approximately 14 TWh at the power plants studied.</p> <p><a href="http://www.tem.fi/en/energy/renewable_energy_sources/replacing_coal_with_biomass_in_pulverised_coal-fired_combined_heat_and_power_plants">http://www.tem.fi/en/energy/renewable_energy_sources/replacing_coal_with_biomass_in_pulverised_coal-fired_combined_heat_and_power_plants</a></p> | <p>Denmark, Finland, Ireland, the Netherlands, Norway, Slovenia, Sweden, Switzerland, and the UK.</p> <p>AAAA. Nutrient Credits / Nutrient Trading Programs<br/>N/A</p>   |  |
| India | <p>BBBB. Current Regulations<br/><b>National Environmental Policy 2006</b> - Seeks to extend the coverage, and fill in gaps that still exist, in light of present knowledge and accumulated experience. It does not displace, but builds on the earlier policies.<br/><a href="http://moef.nic.in/downloads/about-the-ministry/introduction-nep2006e.pdf">http://moef.nic.in/downloads/about-the-ministry/introduction-nep2006e.pdf</a></p> <p>I. Direct Agriculture-Related Regulations<br/>a. Air Emissions from Farms<br/><b>National Environmental Policy 2006</b></p> <p>b. Water Emissions<br/><b>National Environmental Policy 2006</b></p>   | <p>What incentives are governments providing to encourage anaerobic digesters?<br/>The government is providing financial support to these projects under the Waste-to-Energy Program. The Indian government also supports capital expenditures, tariffs, tax concessions, program implementation, and research and development for AD projects.<br/><a href="http://www.mnre.gov.in/schemes/offgrid/waste-to-energy/">http://www.mnre.gov.in/schemes/offgrid/waste-to-energy/</a></p> <p><a href="http://www.direc2010.gov.in/pdf/Policy%20Development%20Requirements%20for%20Biogas%20Upscaling%20in%20India.pdf">http://www.direc2010.gov.in/pdf/Policy%20Development%20Requirements%20for%20Biogas%20Upscaling%20in%20India.pdf</a></p> <p>National Biogas and Manure Management Programme (NBMMP)<br/><a href="http://www.mnre.gov.in/schemes/decentralized-systems/schems-2/">http://www.mnre.gov.in/schemes/decentralized-systems/schems-2/</a></p> <p>EEEE. Feed-in Tariffs<br/>India's Central Electricity Regulatory Commission (CERC) announced</p> | <ul style="list-style-type: none"> <li>India is one of the largest agricultural producers in the world.</li> <li>No. of ADs in India – 4.6 million (150,000 new ADs per year).</li> <li>Waiting on additional information regarding Indian incentives and regulations from <a href="mailto:mateen@emergence">mateen@emergence</a></li> </ul> |

|  | Regulations/Policies   | Incentives  | Comments  |
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|  | <p>c. Manure Storage<br/><b>National Environmental Policy 2006</b></p> <p>d. Nutrient / Fertilizer / Manure Regulations<br/><b>National Environmental Policy 2006</b></p> <p>II. Renewable Energy-Related Regulations<br/>Waste-to-Energy Program<br/><a href="http://www.mnre.gov.in/schemes/offgrid/waste-to-energy/">http://www.mnre.gov.in/schemes/offgrid/waste-to-energy/</a></p> <p>a. Renewable Energy Generation Targets<br/>48 GW by 2015<br/><a href="http://cleantechnica.com/2010/07/25/indias-renewable-energy-generation-capacity-could-reach-48-gw-by-2015/">http://cleantechnica.com/2010/07/25/indias-renewable-energy-generation-capacity-could-reach-48-gw-by-2015/</a></p> <p>b. Greenhouse Gas (GHG) Emission Reduction Targets</p> <p>c. Country-Level Energy Planning<br/>National Biogas and Manure Management Programme (NBMMP)<br/><a href="http://www.mnre.gov.in/schemes/decentralized-systems/schems-2/">http://www.mnre.gov.in/schemes/decentralized-systems/schems-2/</a></p> <p>CCCC. International Treaties<br/>Kyoto Protocol -<br/><a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a></p> <p>DDDD. Other Policy Drivers</p> | <p>new regulations that launched a system of feed-in tariffs on 17th September 2009, in New Delhi.</p> <p>CERC's regulations are a merely a primer on how to calculate tariffs for each technology and issues guidelines for fixing feed-in tariffs. A number of states also run their own, alternative feed-in tariff schemes.</p> <p>The feed-in tariff regulations were in response to the National Action Plan on Climate Change. The action plan calls for five percent of electricity generation in India to be from renewable sources by 2010 and to increase one percent per year for the next ten years. (Biogas eligible).<br/><a href="http://www.futurepolicy.org/2615.html">http://www.futurepolicy.org/2615.html</a></p> <p>FFFF. Renewable Energy Credits (RECs) / Renewables Obligation Certificates (ROCs)<br/>In 2008, India's National Action Policy on Climate Change set a renewable portfolio standard, called the Renewable Purchase Obligation (RPO), to produce 15% of the country's electricity with renewable energy sources by 2020. Further, under the Jawaharlal Nehru National Solar Mission, the Indian government aims to develop 20,000 MW of solar energy by 2022.<br/><a href="http://climatepolicyinitiative.org/2013/02/11/in-india-renewable-energy-certificates-are-missing-the-target/">http://climatepolicyinitiative.org/2013/02/11/in-india-renewable-energy-certificates-are-missing-the-target/</a></p> <p>GGGG. Renewable Heat Incentives (RHI)<br/>N/A</p> <p>HHHH. Tax Exemptions<br/>N/A</p> <p>IIII. Renewable Transport Fuel Obligations (RTFO)<br/>N/A</p> <p>JJJJ. Carbon Credits / Carbon Trading Programs<br/>Coal Only - In July 2010, India introduced a nationwide carbon tax of</p> | <p><a href="http://bioenergy.com">bioenergy.com</a></p> |

|                 | Regulations/Policies   | Incentives  | Comments   |
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|                 |  | <p>50 rupees per tonne (less than \$A1) of coal both produced and imported to India.</p> <p>KKKK.Nutrient Credits / Nutrient Trading Programs<br/>N/A</p>   |  |
| <b>Pakistan</b> | <p>LLLL. Current Regulations</p> <p>I. Direct Agriculture-Related Regulations<br/>Agriculture Department<br/><a href="http://www.agripunjab.gov.pk/">http://www.agripunjab.gov.pk/</a></p> <p>a. Air Emissions from Farms<br/>Agriculture Department</p> <p>b. Water Emissions<br/>Agriculture Department<br/><br/>Water Management<br/><a href="http://www.agripunjab.gov.pk/index.php?f=4&amp;m=0&amp;l=0&amp;r=1">http://www.agripunjab.gov.pk/index.php?f=4&amp;m=0&amp;l=0&amp;r=1</a></p> <p>c. Manure Storage<br/>Encourage the integration of anaerobic digestion as part of manure management systems.</p> <p>d. Nutrient / Fertilizer / Manure Regulations<br/>Encourage the integration of anaerobic digestion as part of manure management systems</p> <p>II. Renewable Energy-Related Regulations</p> | <p>What incentives are governments providing to encourage anaerobic digesters?<br/><a href="http://www.academia.edu/1825093/Biogas_Potential_in_Pakistan">http://www.academia.edu/1825093/Biogas_Potential_in_Pakistan</a></p> <p>The Punjab government converted some 50 tube wells from diesel to biogas last year in a successful experiment. Around 1,500 family-size biogas plants were also set up in rural areas through a balloting process, with the government paying 30 percent of the cost of each plant.</p> <p>Punjab's Agriculture Department now intends to convert 50,000 tube wells to biogas in the next three years. "Each farmer who runs a tube-well engine of 16 horsepower to irrigate his land can save around \$3,000 and 2.88 tonnes of fuel annually if the engine is converted to biogas,"<br/><a href="http://www.trust.org/item/20131001093435-o9hzy/">http://www.trust.org/item/20131001093435-o9hzy/</a></p> <p>The Pakistan Council of Renewable Energy Technologies is providing \$200 as a subsidy to help families in Punjab install the plants.</p> <p>0000. Feed-in Tariffs<br/>The latest efforts of Pakistan, is to improve incentives of this policy from 2006.</p> <p>Pakistan's National Electric Power Regulatory Authority (NEPRA) has already proposed a new feed-in tariff scheme which hasn't started yet.</p> | <ul style="list-style-type: none"> <li>The Pakistan Council of Renewable Energy Technologies is providing \$200 as a subsidy to help families in Punjab install the plants.</li> </ul> |

|             | Regulations/Policies   | Incentives   | Comments |
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|             | <p>a. Renewable Energy Generation Targets<br/>10% by 2015<br/><a href="http://powerasia.com.pk/introduction.htm">http://powerasia.com.pk/introduction.htm</a></p> <p><b>Pakistan's</b> government is working to achieve the <b>targets</b> laid down in its Vision 2030.<br/><a href="http://www.pc.gov.pk/vision2030.html">http://www.pc.gov.pk/vision2030.html</a></p> <p>b. Greenhouse Gas (GHG) Emission Reduction Targets</p> <p>c. Country-Level Energy Planning</p> <p>MMMM. International Treaties<br/>Kyoto Protocol -<br/><a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a></p> <p>NNNN. Other Policy Drivers<br/>The authorities in Punjab province are planning to exploit biogas as an alternative energy source to overcome power shortages.</p> <p>The Government has formed a council for renewable energy technology named as Pakistan Council for Renewable Energy technology (PCRET). Which is working for the development of the biogas plants in the country.<br/><a href="http://www.pcret.gov.pk/">http://www.pcret.gov.pk/</a></p> | <p><a href="http://www.futurepolicy.org/2601.html">http://www.futurepolicy.org/2601.html</a></p> <p>PPPP. Renewable Energy Credits (RECs) / Renewables Obligation Certificates (ROCs)<br/>N/A</p> <p>QQQQ. Renewable Heat Incentives (RHI)<br/>N/A</p> <p>RRRR. Tax Exemptions<br/>N/A</p> <p>SSSS. Renewable Transport Fuel Obligations (RTFO)<br/>N/A</p> <p>TTTT. Carbon Credits / Carbon Trading Programs<br/>N/A</p> <p>UUUU. Nutrient Credits / Nutrient Trading Programs<br/>N/A</p>                                |          |
| <b>Peru</b> | <p>VVVV. Current Regulations</p> <p>I. Direct Agriculture-Related Regulations</p> <p>a. Air Emissions from Farms</p> <p>b. Water Emissions</p> <p>c. Manure Storage</p> <p>d. Nutrient / Fertilizer / Manure Regulations</p> <p>II. Renewable Energy-Related Regulations</p>   | <p>What incentives are governments providing to encourage anaerobic digesters?<br/>The popularity of tubular digesters has increased recently in Peru, due to its portability and low cost. The usefulness of these digesters includes easy installation, easy handling, and adaptation to extreme conditions at high altitudes with low temperatures.</p> <p>YYYY. Feed-in Tariffs<br/>The Peruvian government implemented its Rural Electrification Law (REL) in 2002 for promoting renewable energy through a quota</p> |          |

|                    | Regulations/Policies  | Incentives  | Comments |
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|                    | <p>Law for investment promotion for electricity generation using renewable energy - Legislative Decree 1002</p> <p>Renewable Energy in Peru<br/> <a href="http://www.naruc.org/international/Documents/FMolinelli%20Renewable%20Energies%20in%20Peru.pdf">http://www.naruc.org/international/Documents/FMolinelli%20Renewable%20Energies%20in%20Peru.pdf</a></p> <p>a. Renewable Energy Generation Targets<br/>55% by 2015</p> <p>b. Greenhouse Gas (GHG) Emission Reduction Targets</p> <p>c. Country-Level Energy Planning</p> <p>WWWW. International Treaties<br/>         Kyoto Protocol -<br/> <a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a></p> <p>XXXX. Other Policy Drivers</p> | <p>system, preferential premiums and feed-in tariffs. (Biogas eligible)</p> <p><a href="http://www.futurepolicy.org/4732.html">http://www.futurepolicy.org/4732.html</a></p> <p>ZZZZ. Renewable Energy Credits (RECs) / Renewables Obligation Certificates (ROCs)<br/>N/A</p> <p>AAAAA. Renewable Heat Incentives (RHI)<br/>N/A</p> <p>BBBBB. Tax Exemptions<br/>N/A</p> <p>CCCCC. Renewable Transport Fuel Obligations (RTFO)<br/>N/A</p> <p>DDDDD. Carbon Credits / Carbon Trading Programs<br/>N/A</p> <p>EEEEEE. Nutrient Credits / Nutrient Trading Programs<br/>N/A</p> |          |
| <b>Philippines</b> | <p>FFFFF. Current Regulations</p> <p>I. Direct Agriculture-Related Regulations</p> <p>a. Air Emissions from Farms</p> <p>b. Water Emissions</p> <p>c. Manure Storage</p>  | <p>What incentives are governments providing to encourage anaerobic digesters?</p> <p>IIIII. Feed-in Tariffs<br/>         On the 27th of July 2012 the Philippines' Energy Regulatory Commission (ERC) approved initial feed-in tariff rates for renewable</p>  |          |

|               | Regulations/Policies  | Incentives   | Comments   |
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|               | <p>d. Nutrient / Fertilizer / Manure Regulations</p> <p>II. Renewable Energy-Related Regulations</p> <p>a. Renewable Energy Generation Targets<br/>National Renewable Energy Program<br/><a href="http://www.doe.gov.ph/microsites/nrep/index.php">http://www.doe.gov.ph/microsites/nrep/index.php</a></p> <p>b. Greenhouse Gas (GHG) Emission Reduction Targets</p> <p>c. Country-Level Energy Planning<br/>National Renewable Energy Program<br/><a href="http://www.doe.gov.ph/microsites/nrep/index.php">http://www.doe.gov.ph/microsites/nrep/index.php</a></p> <p>GGGGG. International Treaties<br/>Kyoto Protocol -<br/><a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a></p> <p>HHHHH. Other Policy Drivers</p> | <p>energy.</p> <p>The Feed-in Tariff Rules were established on the 23rd of July 2010 as an incentive mechanism to accelerate development of renewable energy under the Renewable Energy Act of 2008. (Biogas eligible)</p> <p><a href="http://www.futurepolicy.org/4754.html">http://www.futurepolicy.org/4754.html</a></p> <p>JJJJJ. Renewable Energy Credits (RECs) / Renewables Obligation Certificates (ROCs)<br/>N/A</p> <p>KKKKK. Renewable Heat Incentives (RHI)<br/>N/A</p> <p>LLLLL. Tax Exemptions<br/>N/A</p> <p>MMMMM. Renewable Transport Fuel Obligations (RTFO)<br/>N/A</p> <p>NNNNN. Carbon Credits / Carbon Trading Programs<br/>N/A</p> <p>OOOOO. Nutrient Credits / Nutrient Trading Programs<br/>N/A</p> |  |
| <b>Poland</b> | <p>PPPPP. Current Regulations</p> <p>I. Direct Agriculture-Related Regulations<br/><b>Common Agricultural Policy</b></p>  | <p>What incentives are governments providing to encourage anaerobic digesters?</p> <p>The market of biogas in Poland has been constantly developing; however, it</p>   | <ul style="list-style-type: none"> <li>• Biogas Poland explored the opportunities and</li> </ul> |



|  | Regulations/Policies   | Incentives  | Comments   |
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|  | <p>As a member of the European Union, agriculture is covered by the Common Agricultural Policy.</p> <p>a. Air Emissions from Farms</p> <p>b. Water Emissions</p> <p>c. Manure Storage</p> <p>d. Nutrient / Fertilizer / Manure Regulations<br/> <b>Common Agricultural Policy</b><br/> The <u>Nitrates Directive (1991)</u> aims to protect water quality across Europe by preventing nitrates from agricultural sources polluting ground and surface waters and by promoting the use of good farming practices<br/> <a href="http://ec.europa.eu/environment/water/water-nitrates/">http://ec.europa.eu/environment/water/water-nitrates/</a></p> <p>II. Renewable Energy-Related Regulations<br/> <b>National Renewable Energy Action Plan</b> – Provides detailed roadmaps of how each Member State expects to reach its legally binding 2020 target for the share of renewable energy in their final energy consumption.<br/> <a href="http://ec.europa.eu/energy/renewables/action_plan_en.htm">http://ec.europa.eu/energy/renewables/action_plan_en.htm</a></p> <p>a. Renewable Energy Generation Targets</p> <p>b. Greenhouse Gas (GHG) Emission Reduction Targets<br/> Poland established a target of 14% of energy production from renewable energy sources by 2020. This aggressive target combined with economic growth provides an encouraging investment atmosphere for renewable energy developers. It is estimated that the potential for biogas plants and natural waste processing facilities in Poland is around 90% of the size of the German market which creates many</p> | <p>is far from using its full potential. Experts more and more often state that there are scarce chances of realization of the plan of the Ministry of Economy and Ministry of Agriculture and Rural Development, which assumed construction of 2.500 biogas stations until 2020, which would allow Poland to become a European leader in the sector. Presently, the calculations indicate to merely 10 % degree of fulfillment of the purpose, but as regards the potential of the biogas sector in Poland, they often used a metaphor of legendary Eldorado.</p> <p>Poland as the third largest agricultural area in the EU with its 15 million hectares of farmlands and impressive number of farmhouses, has an excellent base of raw materials for biogas production. Apart from favorable conditions, Poland is a perfect place for investing in biogas stations owing to high capacity of the installations – with generators of the same power they are able to generate four times more energy than a wind farm. A great advantage is also the fact that substrates are used in biogas generation processes, which could not be used in any other way and, which, if stored, could create hazards for the environment. Use of the substrates for biogas production will, therefore, solve the problem of agricultural waste disposal and, at the same time, biogas installations could help us to fulfill the EU requirements also in relation to waste management. Moreover, biomass processing allows for obtaining considerable amounts of high quality organic and environment-friendly fertilizers and farmers can gain additional sale markets.</p> <p>What prevents the biogas sector from developing its wings? What difficulties have to be faced by investors planning their projects in this field and what is the situation of the existing biogas stations now? And finally – can the biogas sector rely on new clear legal regulations and stable system of support in the nearest future, which would lead to the long awaited boom? This issue as well as many other issues connected with the present situation and perspectives of development of the biogas market in Poland are addressed in the project entitled “What’s New About Biogas?”, which is realized as part of the International Fair of Renewable Energy and Energy Efficiency RENEXPO® Poland. It was initiated by the Union of Manufacturers and Employers of the Biogas Sector (UPEBI), which organized, together with REECO Poland, the Biogas Forum last year, which enjoyed great interest.</p> | <p>challenges in the country focusing around the three main types of biogas production. Currently the main sources of biogas production in Poland are landfills and wastewater treatment plants. Agriculture biogas plants are in the minority but with over 300 agricultural plants are in the planning stage the sector is set for rapid growth.</p> |

|  | Regulations/Policies  | Incentives  | Comments |
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|  | <p>opportunities.</p> <p>C. Country-Level Energy Planning</p> <p>QQQQQ. International Treaties<br/>Kyoto Protocol -<br/><a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a></p> <p>RRRRR. Other Policy Drivers<br/>Poland's biogas sector is very much in its infancy, but the sector is poised for explosive growth in the coming years. At least 300 agricultural plants are thought to be in advanced planning stages, and the Polish Government is targeting an ambitious uptake of 2500 projects by 2020. With a vast resource potential and an attractive certification scheme for electricity, heat, CHP and pipeline gas produced from biogas plants, the Polish opportunity will alert companies present in more saturated European markets.<br/><a href="http://www.renewableenergyworld.com/rea/blog/post/2012/03/polish-biogas-industry-poised-for-growth-if-regulatory-hurdles-can-be-eased">http://www.renewableenergyworld.com/rea/blog/post/2012/03/polish-biogas-industry-poised-for-growth-if-regulatory-hurdles-can-be-eased</a></p> | <p>This year's project will include another edition of the Biogas Forum.</p> <p>SSSSS. Feed-in Tariffs<br/>On 27 July 2012 Poland published a new draft bill, the <b>Renewable Energy Sources Act</b>. The new law is expected to enter force in early 2013.</p> <p>The new version of the law includes numerous significant changes in comparison to the current RES regulation but also to the first draft of the RES Law from the beginning of this year. The most important amendments include changes of the support scheme for renewable electricity and a considerable simplification of the administrative process regarding grid connection and operation. These mainly affect small RES installations. Biogas eligible.</p> <p>As derived from agriculture; raw material from landfills; wastewater. Two different tariffs for technology up to 50 kW and for that 50-200 kW<br/><a href="http://www.futurepolicy.org/5570.html">http://www.futurepolicy.org/5570.html</a></p> <p>TTTTT. Renewable Energy Credits (RECs) / Renewables Obligation Certificates (ROCs)<br/>N/A</p> <p>UUUUU. Renewable Heat Incentives (RHI)<br/>N/A</p> <p>VVVVV. Tax Exemptions<br/>N/A</p> <p>WWWWW. Renewable Transport Fuel Obligations (RTFO)<br/>N/A</p> <p>XXXXX. Carbon Credits / Carbon Trading Programs<br/>The European Union emissions trading scheme began in 2005 and now covers the 27 countries of the European Union, and three non-European Union members: Iceland, Liechtenstein, and Norway. Their</p> |          |

|               | Regulations/Policies   | Incentives  | Comments |
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|               |  | <p>current target is a 21 per cent cut of 2005 emissions by 2025 (Australia's is a 5% cut of 2000 emissions by 2020).</p> <p>A carbon tax was proposed by the European Commission in 2010, but a carbon tax has not been agreed upon by the 27 member states. The current proposal by the European Commission would charge firms between 4 and 30 euros per metric tonne of CO<sub>2</sub>.</p> <p>Several European countries have enacted a carbon tax. They include: Denmark, Finland, Ireland, the Netherlands, Norway, Slovenia, Sweden, Switzerland, and the UK.</p> <p>YYYYY. Nutrient Credits / Nutrient Trading Programs<br/>N/A</p>  |          |
| <b>Serbia</b> | <p>ZZZZZ. Current Regulations</p> <p>I. Direct Agriculture-Related Regulations</p> <p><b>Common Agricultural Policy</b></p> <p>As a member of the European Union, agriculture is covered by the Common Agricultural Policy.</p> <p>a. Air Emissions from Farms</p> <p>b. Water Emissions</p> <p>c. Manure Storage</p> <p>d. Nutrient / Fertilizer / Manure Regulations</p> <p><b>Common Agricultural Policy</b></p> <p>The <u>Nitrates Directive (1991)</u> aims to protect water quality across Europe by preventing nitrates from agricultural sources polluting ground and surface waters and by promoting the use of good farming practices<br/> <a href="http://ec.europa.eu/environment/water/water-nitrates/">http://ec.europa.eu/environment/water/water-nitrates/</a></p> | <p>What incentives are governments providing to encourage anaerobic digesters?</p> <p>CCCCC. Feed-in Tariffs</p> <p>In November 2009, the Government of Serbia introduced feed-in tariffs to support the production of electricity from renewable sources. The Decree on feed-in tariffs came into force 1<sup>st</sup> January 2010 and will remain in effect until 31<sup>st</sup> December 2012</p> <p>The move was made in order to harmonize national energy regulations with those of the EU in accordance with the treaty the establishing an Energy Community signed in 2005 by the European Community and nine contracting parties from Southeast Europe.</p> <p><u>Biogas is eligible.</u></p> <p><a href="http://www.futurepolicy.org/4383.html">http://www.futurepolicy.org/4383.html</a></p> |          |

|                 | Regulations/Policies   | Incentives   | Comments |
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|                 | <p>II. Renewable Energy-Related Regulations<br/> <b>National Renewable Energy Action Plan</b> – Provides detailed roadmaps of how each Member State expects to reach its legally binding 2020 target for the share of renewable energy in their final energy consumption.<br/> <a href="http://ec.europa.eu/energy/renewables/action_plan_en.htm">http://ec.europa.eu/energy/renewables/action_plan_en.htm</a></p> <p>a. Renewable Energy Generation Targets</p> <p>b. Greenhouse Gas (GHG) Emission Reduction Target 20% by 2020</p> <p>c. Country-Level Energy Planning</p> <p>AAAAAA. International Treaties<br/> Kyoto Protocol -<br/> <a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a></p> <p>BBBBBB. Other Policy Drivers</p> | <p>DDDDDD. Renewable Energy Credits (RECs) / Renewables Obligation Certificates (ROCs)<br/> N/A</p> <p>EEEEEE. Renewable Heat Incentives (RHI)<br/> N/A</p> <p>FFFFFF. Tax Exemptions<br/> N/A</p> <p>GGGGGG. Renewable Transport Fuel Obligations (RTFO)<br/> N/A</p> <p>HHHHHH. Carbon Credits / Carbon Trading Programs<br/> The European Union emissions trading scheme began in 2005 and now covers the 27 countries of the European Union, and three non-European Union members: Iceland, Liechtenstein, and Norway. Their current target is a 21 per cent cut of 2005 emissions by 2025 (Australia's is a 5% cut of 2000 emissions by 2020).</p> <p>A carbon tax was proposed by the European Commission in 2010, but a carbon tax has not been agreed upon by the 27 member states. The current proposal by the European Commission would charge firms between 4 and 30 euros per metric tonne of CO<sub>2</sub>.</p> <p>Several European countries have enacted a carbon tax. They include: Denmark, Finland, Ireland, the Netherlands, Norway, Slovenia, Sweden, Switzerland, and the UK.</p> <p>IIIIII. Nutrient Credits / Nutrient Trading Programs<br/> N/A</p> |          |
| <b>Thailand</b> | IIIIII. Current Regulations  | What incentives are governments providing to encourage anaerobic   |          |

|  | Regulations/Policies  | Incentives   | Comments |
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|  | <p>I. Direct Agriculture-Related Regulations</p> <p>a. Air Emissions from Farms</p> <p>b. Water Emissions</p> <p>c. Manure Storage</p> <p>d. Nutrient / Fertilizer / Manure Regulations</p> <p>II. Renewable Energy-Related Regulations<br/>Energy Planning and Policy Office<br/><a href="http://www.eppo.go.th/index-E.html">http://www.eppo.go.th/index-E.html</a></p> <p>a. Renewable Energy Generation Targets<br/><a href="http://www.bloomberg.com/news/2013-07-17/thailand-plans-to-boost-renewable-energy-output-to-25-of-total.html">http://www.bloomberg.com/news/2013-07-17/thailand-plans-to-boost-renewable-energy-output-to-25-of-total.html</a></p> <p>b. Greenhouse Gas (GHG) Emission Reduction Targets<br/>20% reduction by 2025</p> <p>c. Country-Level Energy Planning<br/>In its infancy, but starting to plan AD development and use.</p> <p>KKKKKK. International Treaties<br/>Kyoto Protocol -<br/><a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a></p> <p>LLLLLL. Other Policy Drivers</p> | <p>digesters?</p> <p>MMMMMM. Feed-in Tariffs<br/>Thailand's Very Small Power Producer (VSPP) regulations were approved by Cabinet in 2002.</p> <p>These regulations allow small community-owned or small entrepreneur-owned renewable energy generation to connect to the grid and sell excess electricity to utilities. In December, 2006 the Thai government announced important changes in VSPP regulations that allow each generator to export up to 10 MW to the grid, and offer feed-in tariff subsidies for renewable electricity production. The VSPP program is also now open to efficient fossil-fuel Combined Heat and Power (CHP). <u>Biogas is eligible.</u><br/><a href="http://www.futurepolicy.org/4772.html">http://www.futurepolicy.org/4772.html</a></p> <p>NNNNNN. Renewable Energy Credits (RECs) / Renewables<br/>Obligation Certificates (ROCs)<br/>N/A</p> <p>OOOOOO. Renewable Heat Incentives (RHI)<br/>N/A</p> <p>PPPPPP. Tax Exemptions<br/>N/A</p> <p>QQQQQQ. Renewable Transport Fuel Obligations (RTFO)<br/>N/A</p> <p>RRRRRR. Carbon Credits / Carbon Trading Programs<br/>N/A</p> <p>SSSSSS. Nutrient Credits / Nutrient Trading Programs<br/>N/A</p> |          |

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| <b>United Kingdom</b> | <p>TTTTTT. Current Regulations</p> <p>I. Direct Agriculture-Related Regulations<br/> <b>Common Agricultural Policy</b><br/> As a member of the European Union, agriculture is covered by the Common Agricultural Policy.</p> <p>a. Air Emissions from Farms<br/> Reducing air pollution on farms.<br/> <a href="https://www.gov.uk/reducing-air-pollution-on-farms">https://www.gov.uk/reducing-air-pollution-on-farms</a></p> <p>Permitting Process for AD<br/> <a href="http://www.environment-agency.gov.uk/static/documents/Business/Anaerobic_Digestion_and_Environmental_Permitting.pdf">http://www.environment-agency.gov.uk/static/documents/Business/Anaerobic Digestion and Environmental Permitting.pdf</a></p> <p>b. Water Emissions<br/> <a href="http://www.legislation.gov.uk/ukxi/2010/1091/contents/made">http://www.legislation.gov.uk/ukxi/2010/1091/contents/made</a></p> <p>c. Manure Storage<br/> The Nitrate Pollution Prevention (Amendment) Regulations 2009 – Regulations limit the amount to time that manure can be stored. Regulations goal is to reduce the amount of nitrates, derived from the application of nitrogen fertilizer and organic manures, entering surface and groundwater in Nitrate Vulnerable Zones (NVZs) in England.<br/> <a href="http://www.legislation.gov.uk/ukxi/2009/3160/contents/made">http://www.legislation.gov.uk/ukxi/2009/3160/contents/made</a></p> <p>Regulations on manure storage.<br/> <a href="http://www.defra.gov.uk/farming-advice/files/FAS_Slurry-Storage-Technical-Article_FINAL.pdf">http://www.defra.gov.uk/farming-advice/files/FAS_Slurry-Storage-Technical-Article_FINAL.pdf</a></p> <p>General guidelines for manure management.<br/> <a href="https://www.gov.uk/managing-nutrients-and-">https://www.gov.uk/managing-nutrients-and-</a></p> | <p>What incentives are governments providing to encourage anaerobic digesters?</p> <p><a href="https://www.gov.uk/government/policies/increasing-the-use-of-low-carbon-technologies/supporting-pages/renewable-heat-incentive-rhi">https://www.gov.uk/government/policies/increasing-the-use-of-low-carbon-technologies/supporting-pages/renewable-heat-incentive-rhi</a></p> <ul style="list-style-type: none"> <li>• Feed in Tariff (FiT) - ≤ 250 kW = 14.0p/kWh ≤ 500kW = 13.0p/kWh &gt; 500kW = 9.4p/kWh</li> <li>• Renewable Heat Incentive (RHI) = 6.8p/kWh</li> <li>• Renewable Obligation Certificates (ROCs) = 2 ROCs/MWh</li> <li>• Renewable Transport Fuels Obligation to encourage suppliers of vehicle fuel to use renewable sources</li> </ul> <p>WWWWWW. Feed-in Tariffs</p> <p>FITs support organizations, businesses, communities and individuals to generate low-carbon electricity using small-scale (5 megawatts (MW) or less total installed capacity) systems.</p> <p>The feed-in tariff system in Great Britain came into effect in 2010 and aims to support small-scale RES-E systems (&lt; 5 MW).</p> <p>Through the use of FITs, DECC hopes to encourage deployment of additional small-scale (less than 5MW) low-carbon electricity generation, particularly by organizations, businesses, communities and individuals that have not traditionally engaged in the electricity market.</p> <p>Systems using eligible sources must undergo an accreditation process, which may differ according to system size and energy source.<br/> <a href="https://www.gov.uk/government/policies/increasing-the-use-of-low-carbon-technologies/supporting-pages/feed-in-tariffs-scheme">https://www.gov.uk/government/policies/increasing-the-use-of-low-carbon-technologies/supporting-pages/feed-in-tariffs-scheme</a></p> <p>Recent amendments to the FITs Order were laid before Parliament on 24 May 2012, and will come into force on 1 August 2012. For detailed information on the changes, please click <a href="#">here</a>.</p> |          |

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|  | <p><u>fertilisers</u></p> <p>d. Nutrient / Fertilizer / Manure Regulations<br/> <b>Common Agricultural Policy</b><br/> The <u>Nitrates Directive (1991)</u> aims to protect water quality across Europe by preventing nitrates from agricultural sources polluting ground and surface waters and by promoting the use of good farming practices<br/> <a href="http://ec.europa.eu/environment/water/water-nitrates/">http://ec.europa.eu/environment/water/water-nitrates/</a></p> <p>II. Renewable Energy-Related Regulations<br/> <b>National Renewable Energy Action Plan</b> – Provides detailed roadmaps of how each Member State expects to reach its legally binding 2020 target for the share of renewable energy in their final energy consumption.<br/> <a href="http://ec.europa.eu/energy/renewables/action_plan_en.htm">http://ec.europa.eu/energy/renewables/action_plan_en.htm</a></p> <p>a. Renewable Energy Generation Targets<br/> Anaerobic Digestion Strategy and Action Plan. This plan outlines a road map for increasing energy from waste through anaerobic digestion as part of their commitment to be the ‘greenest Government ever’ with a target of supporting up to 3-5 Terawatt hours of electricity from anaerobic digestion by 2020</p> <p>b. Greenhouse Gas (GHG) Emission Reduction Targets</p> <p>c. Country-Level Energy Planning<br/> Anaerobic Digestion Strategy and Action Plan<br/> <a href="https://www.gov.uk/government/publications/anaerobic-digestion-strategy-and-action-plan">https://www.gov.uk/government/publications/anaerobic-digestion-strategy-and-action-plan</a> and<br/> <a href="https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/229432/pb14019-anaerobic-digestion-annual-report-2012-13.pdf">https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/229432/pb14019-anaerobic-digestion-annual-report-2012-13.pdf</a></p> <p>UUUUUU. International Treaties</p> | <p>Furthermore, the U.K have come up with a FIT program which specifically targets renewable energy heat, such as solar thermal or geothermal heat pumps.</p> <p>On November 28, 2011, the <u>Renewable Heat Incentive (RHI)</u> was officially opened for industrial, commercial and public sector applicants to participate in <u>Phase 1 of the program</u>. The objective being to increase renewable heat from 1.5% to 12% by 2030.<br/> <a href="http://www.futurepolicy.org/2623.html">http://www.futurepolicy.org/2623.html</a></p> <p>XXXXXX. Renewable Energy Credits (RECs) / Renewables Obligation Certificates (ROCs)<br/> UK introduced the Renewables Obligation (RO) in 2002 to provide incentives for the deployment of large-scale renewable electricity in the UK.</p> <p>The RO requires licensed UK electricity suppliers to source a specified proportion of the electricity they provide to customers from eligible renewable sources. This proportion (known as the ‘obligation’) is set each year and has increased annually.<br/> <a href="https://www.gov.uk/government/policies/increasing-the-use-of-low-carbon-technologies/supporting-pages/the-renewables-obligation-ro">https://www.gov.uk/government/policies/increasing-the-use-of-low-carbon-technologies/supporting-pages/the-renewables-obligation-ro</a></p> <p>YYYYYY. Renewable Heat Incentives (RHI)<br/> Set the Renewable Heat Incentive (RHI) level at 6.5p/kWh for Biomethane injection to the grid, guaranteed for 20 years.<br/> <a href="http://www.waste-management-world.com/articles/2011/03/rhis-welcomed-easing-biogas-to-grid-injection-still-required.html">http://www.waste-management-world.com/articles/2011/03/rhis-welcomed-easing-biogas-to-grid-injection-still-required.html</a></p> <p>The Anaerobic Digestion and Biogas Association (ADBA) has welcomed the move, and claimed that independent studies have shown that upgrading biogas to biomethane for grid injection is the best way to maximize the contribution of the Anaerobic Digestion (AD) industry to mitigating greenhouse gas emissions and addressing energy security issues.<br/> <a href="http://www.biogas-info.co.uk/index.php/news-archive/129-new-renewable-heat-incentive-tariffs-introduced.html">http://www.biogas-info.co.uk/index.php/news-archive/129-new-renewable-heat-incentive-tariffs-introduced.html</a></p> |          |

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|  | <p>Kyoto Protocol -<br/> <a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a></p> <p>VVVVVV. Other Policy Drivers</p> | <p><a href="http://www.biomassenergycentre.org.uk/portal/page?_pageid=77,363178&amp;_dad=portal&amp;_schema=PORTAL">http://www.biomassenergycentre.org.uk/portal/page?_pageid=77,363178&amp;_dad=portal&amp;_schema=PORTAL</a></p> <p><i>Northern Ireland</i> - Renewable heat is wrongly seen by some as not being as attractive as renewable energy; it cannot be put into a grid or a vehicle and is difficult to transport. However, the practical and potential use on local farms is possibly more sustainable than these counterparts. The RHI has the potential to be the most beneficial “renewable option” for many local farmers. It is an incentive rather than obligation which highlights its potential as a sustainable option.<br/> <a href="http://www.farminglife.com/ufu-watch/renewable-heat-incentive-rhi-provides-excellent-opportunity-for-local-farmers-1-5310455">http://www.farminglife.com/ufu-watch/renewable-heat-incentive-rhi-provides-excellent-opportunity-for-local-farmers-1-5310455</a></p> <p><a href="http://www.knightfrank.co.uk/news/knight-frank-expert-explains-how-the-renewable-heat-incentive-works-and-how-it-will-benefit-rural-property-owners-0636.aspx">http://www.knightfrank.co.uk/news/knight-frank-expert-explains-how-the-renewable-heat-incentive-works-and-how-it-will-benefit-rural-property-owners-0636.aspx</a></p> <p>ZZZZZZ. Tax Exemptions</p> <p>The levy exemption certificate (LEC), or climate change levy (CCL), is a tax on energy delivered to non-domestic users in the United Kingdom. Electricity produced from designated renewable sources is exempt from the Climate Change Levy and is entitled to LECs, which can be bundled with the power when sold to a supplier. Those consumers not subject to Climate Change Agreements can purchase renewable power and benefit from the associated levy exemption. The CCL is a tax on energy used by non-domestic consumers. Suppliers add the charge to the bills of commercial users with the money generated used by government to fund energy saving measures.<br/> <a href="https://www.ofgem.gov.uk/environmental-programmes/climate-change-levy-exemption">https://www.ofgem.gov.uk/environmental-programmes/climate-change-levy-exemption</a>.</p> <p>AAAAAAA. Renewable Transport Fuel Obligations (RTFO)</p> <p>The UK Renewable Transport Fuel Obligation (the RTFO) requires suppliers of fossil fuels to ensure that a specified % of the road fuel supplied in the UK is made up of renewable fuels. The RTFO requires companies to submit reports on carbon emissions and sustainability of biofuels. The RTFO is one of the UK Governments main policies for</p> |          |



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|                      |   | <p>reducing GHG emissions from road transport.</p> <p><a href="http://iet.jrc.ec.europa.eu/remea/sites/remea/files/files/documents/ev ents/black_rtfo.pdf">http://iet.jrc.ec.europa.eu/remea/sites/remea/files/files/documents/ev ents/black_rtfo.pdf</a></p> <p>BBBBBBB. Carbon Credits / Carbon Trading Programs</p> <p>The European Union emissions trading scheme began in 2005 and now covers the 27 countries of the European Union, and three non-European Union members: Iceland, Liechtenstein, and Norway. Their current target is a 21 per cent cut of 2005 emissions by 2025 (Australia's is a 5% cut of 2000 emissions by 2020).</p> <p>A carbon tax was proposed by the European Commission in 2010, but a carbon tax has not been agreed upon by the 27 member states. The current proposal by the European Commission would charge firms between 4 and 30 euros per metric tonne of CO<sub>2</sub>.</p> <p>Several European countries have enacted a carbon tax. They include: Denmark, Finland, Ireland, the Netherlands, Norway, Slovenia, Sweden, Switzerland, and the UK.</p> <p>In 1993, the UK government introduced a tax on retail petroleum products, to reduce emissions in the transport sector. The UK's Climate Change Levy was introduced in 2001. The United Kingdom participates in the European Union emissions trading scheme and is covered by European Union policies and measures. The United Kingdom has put in place regulations requiring all new homes to have zero emissions for heating, hot water, cooling and lighting from 2016.</p> <p>CCCCCCC. Nutrient Credits / Nutrient Trading Programs</p> <p>N/A</p> |   |
| <b>United States</b> | <p>DDDDDDD. Current Regulations</p> <p>I. Direct Agriculture-Related Regulations</p> <p>a. Air Emissions from Farms</p> | What incentives are governments providing to encourage anaerobic digesters?  | <ul style="list-style-type: none"> <li>There is significant interest in maximizing co-</li> </ul> |

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|  | <p>State air permits may be required if on-site combustion devices trigger federal emissions thresholds and/or other federal regulatory permitting requirements. Combustion devices with air emissions below federal thresholds may avoid permitting requirements.<br/> <a href="http://www.epa.gov/agstar/tools/permitting.html">http://www.epa.gov/agstar/tools/permitting.html</a></p> <p>On September 22, 2009, EPA finalized a national system for reporting emissions of carbon dioxide and other greenhouse gases produced by major sources in the United States. Under the Mandatory Reporting of Greenhouse Gases (GHGs) rule, owners or operators of facilities that contain manure management systems, and emit at least 25,000 metric tons of GHGs per year (expressed as carbon dioxide equivalents) will report emissions from all source categories located at the facility for which emission calculation methods are defined in the rule. Owners or operators will collect emission data; calculate GHG emissions; and follow the specified procedures for quality assurance, missing data, recordkeeping, and reporting.<br/> <a href="http://www.epa.gov/agriculture/anafoair.html">http://www.epa.gov/agriculture/anafoair.html</a></p> <p><b>b. Water Emissions</b><br/> The Clean Water Act regulates Concentrated Animal Feeding Operations (CAFOs) that discharge or propose to discharge to U.S. waters and requires these facilities to obtain a <a href="#">National Pollutant Discharge Elimination System (NPDES) permit (PDF)</a>. Discharges include the result of inappropriate land application of manure. Large CAFOs that discharge must be permitted and develop and maintain <a href="#">Nutrient Management Plans (NMPs)</a> to ensure appropriate land application of manure. Smaller farms may also be required to comply with the rule if they discharge to waters of the U.S. through a manmade device or through direct contact of the animals with waters of the U.S. Certain states may also include smaller farms in their animal feeding operations programs.</p> | <p>GGGGGGG. Feed-in Tariffs<br/> Dependent on state. Several states have FIT programs.</p> <p>California, Florida, Hawaii, Indiana, Rhode Island, Oregon, Vermont, and Washington.</p> <p><a href="http://www.futurepolicy.org/4150.html">http://www.futurepolicy.org/4150.html</a></p> <p>HHHHHHH. Renewable Energy Credits (RECs) / Renewables Obligation Certificates (ROCs)<br/> In North America, consumers in both the United States and Canada have access to green energy via the purchase of renewable energy credits (RECs). Canada has become a leader in purchasing RECs in recent years. This high level of RECs Canada has achieved comes from companies like Bullfrog Power leading the way.</p> <p>Now you have options in Canada: although we are new to the Canada RECs market, we bring the same knowledge, leadership, and preferred pricing to Canada that has made us a top provider to EPA Green Power Partners in the United States.</p> <p>Renewable Choice is dedicated to maintaining a diverse portfolio of the renewable energy credits Canada has employed with projects that include biomass and wind power electricity generation. Every project we support meets stringent environmental standards and does not benefit from regulatory support. Renewable Choice currently supports five different REC projects in Canada</p> <p>IIIIIII. Renewable Heat Incentives (RHI)<br/> N/A</p> <p>JJJJJJJ. Tax Exemptions<br/> The Federal Production Tax Credit (PTC) and Investment Tax Credit (ITC) are incentives for developing and deployment of renewable energy technologies.</p> | <p>digestion in order to increase methane production. Nutrient management is a concern in the U.S., due to limits on amounts of nitrogen and phosphorus that can be applied to farm lands.</p> <ul style="list-style-type: none"> <li>• No. of AD in the USA – 220 (mainly on dairy farms)</li> <li>• U.S. Department of Energy (DOE) Bioenergy Technologies Office is starting a new initiative on waste-to-energy and AD will be considered one of the options. DOE will be issuing contracts to research and promote waste-to-energy activities.</li> <li>• The National Farmers Union set a vision for 1,000 farm based anaerobic digestion plants by 2020</li> </ul> |

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|        | <p><a href="http://www.epa.gov/agstar/tools/permitting.html">http://www.epa.gov/agstar/tools/permitting.html</a></p> <p>c. Manure Storage<br/>Clean Water Act - CAFOs that discharge must be permitted and develop and maintain <u>Nutrient Management Plans</u> (NMPs) to ensure appropriate land application of manure.<br/><a href="http://www.epa.gov/agstar/tools/permitting.html">http://www.epa.gov/agstar/tools/permitting.html</a></p> <p>d. Nutrient / Fertilizer / Manure Regulations<br/>CNMPs are developed in accordance with U.S. <u>Natural Resources Conservation Service</u> (formerly the Soil Conservation Service) conservation planning policies and <u>Environmental Protection Agency</u> guidance.</p> <p>II. Renewable Energy-Related Regulations</p> <p>a. Renewable Energy Generation Targets<br/>Yes.</p> <p>b. Greenhouse Gas (GHG) Emission Reduction Targets<br/>Yes</p> <p>c. Country-Level Energy Planning<br/>Yes.</p> <p>EEEEEEE. International Treaties<br/>N/A (signed but did not ratify Kyoto)</p> <p>FFFFFFF. Other Policy Drivers</p> | <p>KKKKKKK. Renewable Transport Fuel Obligations (RTFO)<br/>N/A</p> <p>LLLLLLL. Carbon Credits / Carbon Trading Programs<br/>There is no nationwide carbon tax levelled in the USA, although a few states have introduced the tax. The United States Administration has not been able to secure support for legislation to set either a price or a limit on greenhouse gas emissions. However, emissions trading has operated in the power sector in nine states since 2009. California's emissions trading scheme will start in January 2013.</p> <p>The state of <b>California's GHG Cap-and-Trade Program</b> is a central element of California's Global Warming Solutions Act (AB 32) and covers major sources of GHG emissions in the State such as refineries, power plants, industrial facilities, and transportation fuels. The regulation includes an enforceable GHG cap that will decline over time. The California Air Resources Board (ARB) will distribute allowances, which are tradable permits, equal to the emission allowed under the cap.</p> <p>MMMMMMM. Nutrient Credits / Nutrient Trading Programs<br/>The primary purpose of the Nutrient Credit Trading Program is to provide for more efficient ways for National Pollutant Discharge Elimination System (NPDES) permittees to meet their effluent limits for nutrients.</p> |          |
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| France | <p>NNNNNNN. Current Regulations</p> <p>I. Direct Agriculture-Related Regulations<br/><b>Common Agricultural Policy</b><br/>As a member of the European Union, agriculture is covered</p>  | <p>What incentives are governments providing to encourage anaerobic digesters?<br/>QAAAAA. Feed-in Tariffs</p>   |          |

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|  | <p>by the Common Agricultural Policy.</p> <p>a. Air Emissions from Farms</p> <p>b. Water Emissions</p> <p>c. Manure Storage</p> <p>d. Nutrient / Fertilizer / Manure Regulations</p> <p><b>Common Agricultural Policy</b><br/> The <u>Nitrates Directive (1991)</u> aims to protect water quality across Europe by preventing nitrates from agricultural sources polluting ground and surface waters and by promoting the use of good farming practices<br/> <a href="http://ec.europa.eu/environment/water/water-nitrates/">http://ec.europa.eu/environment/water/water-nitrates/</a></p> <p>II. Renewable Energy-Related Regulations</p> <p><b>National Renewable Energy Action Plan</b> – Provides detailed roadmaps of how each Member State expects to reach its legally binding 2020 target for the share of renewable energy in their final energy consumption.<br/> <a href="http://ec.europa.eu/energy/renewables/action_plan_en.htm">http://ec.europa.eu/energy/renewables/action_plan_en.htm</a></p> <p>a. Renewable Energy Generation Targets</p> <p>b. Greenhouse Gas (GHG) Emission Reduction Targets<br/> Yes, 20% by 2020</p> <p>c. Country-Level Energy Planning</p> <p>OOOOOOO. International Treaties<br/> Kyoto Protocol -<br/> <a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a></p> <p>PPPPPPP. Other Policy Drivers</p> | <p>In France, electricity from renewable sources is promoted through a price regulation system based on a feed-in tariff.</p> <p>The tariffs are guaranteed minimum payments, which may be increased by a premium. The amount of tariff is set by a specific order (arrête) for every single source of energy.</p> <p>The scheme is primarily based on Article 10 of the Law on the Modernization of Public Electricity Services (Loi n° 2000-108)</p> <p>Biogas is eligible - Electricity shall be generated either through the combustion of gas, which shall be produced through the pyrolysis or fermentation of substances and waste from agriculture, forestry and related industries, or through the treatment of water, or from domestic waste through the use of biogas.<br/> <a href="http://www.futurepolicy.org/2657.html">http://www.futurepolicy.org/2657.html</a></p> <p>RRRRRRR. Renewable Energy Credits (RECs) / Renewables<br/> Obligation Certificates (ROCs)</p> <p>SSSSSSS. Renewable Heat Incentives (RHI)<br/> N/A</p> <p>TTTTTTT. Tax Exemptions<br/> N/A</p> <p>UUUUUUU. Renewable Transport Fuel Obligations (RTFO)<br/> N/A</p> <p>VVVVVVV. Carbon Credits / Carbon Trading Programs<br/> The European Union emissions trading scheme began in 2005 and now covers the 27 countries of the European Union, and three non-European Union members: Iceland, Liechtenstein, and Norway. Their current target is a 21 per cent cut of 2005 emissions by 2025 (Australia's is a 5% cut of 2000 emissions by 2020).</p> <p>A carbon tax was proposed by the European Commission in 2010, but a carbon tax has not been agreed upon by the 27 member states. The</p> |          |

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|         |  | <p>current proposal by the European Commission would charge firms between 4 and 30 euros per metric tonne of CO<sub>2</sub>.</p> <p>Several European countries have enacted a carbon tax. They include: Denmark, Finland, Ireland, the Netherlands, Norway, Slovenia, Sweden, Switzerland, and the UK.</p> <p>WWWWWWW. Nutrient Credits / Nutrient Trading Programs<br/>N/A</p>  |          |
| Ireland | <p>XXXXXXX. Current Regulations</p> <p>I. Direct Agriculture-Related Regulations<br/><b>Common Agricultural Policy</b><br/>As a member of the European Union, agriculture is covered by the Common Agricultural Policy.</p> <p>a. Air Emissions from Farms</p> <p>b. Water Emissions</p> <p>c. Manure Storage</p> <p>d. Nutrient / Fertilizer / Manure Regulations<br/><b>Common Agricultural Policy</b><br/>The <u>Nitrates Directive (1991)</u> aims to protect water quality across Europe by preventing nitrates from agricultural sources polluting ground and surface waters and by promoting the use of good farming practices<br/><a href="http://ec.europa.eu/environment/water/water-nitrates/">http://ec.europa.eu/environment/water/water-nitrates/</a></p> <p>II. Renewable Energy-Related Regulations<br/><b>National Renewable Energy Action Plan</b> – Provides detailed roadmaps of how each Member State expects to reach its legally binding 2020 target for the share of</p> | <p>What incentives are governments providing to encourage anaerobic digesters?</p> <p>AAAAAAA. Feed-in Tariffs<br/>Ireland has binding legal obligations under EU Directive 2009/28 EC to ensure that 16% of all energy consumed in Ireland across the electricity, heat and transport sectors is from renewable sources by 2020.</p> <p>The 'Renewable Energy Feed in Tariff' (REFIT) is the primary means through which electricity from renewable sources is supported in Ireland. The first REFIT scheme ('REFIT 1') was announced in 2006 and state aid approval was obtained in September 2007.</p> <p>There have also been state aid approval from the European Commission for two new REFIT schemes - REFIT 2 (onshore wind, small hydro and landfill gas) and REFIT 3 (biomass technologies).<br/><a href="http://www.futurepolicy.org/2649.html">http://www.futurepolicy.org/2649.html</a></p> <p>BBBBBBBB. Renewable Energy Credits (RECs) / Renewables Obligation Certificates (ROCs)<br/>N/A</p> <p>CCCCCCCC. Renewable Heat Incentives (RHI)</p> |          |

|             | Regulations/Policies  | Incentives  | Comments   |
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|             | <p>renewable energy in their final energy consumption.<br/> <a href="http://ec.europa.eu/energy/renewables/action_plan_en.htm">http://ec.europa.eu/energy/renewables/action_plan_en.htm</a></p> <p>a. Renewable Energy Generation Targets</p> <p>b. Greenhouse Gas (GHG) Emission Reduction Targets<br/> Yes, 20% by 2020<br/> <a href="http://www.streambioenergy.ie/greenhouse-gas-emissions.html">http://www.streambioenergy.ie/greenhouse-gas-emissions.html</a></p> <p>c. Country-Level Energy Planning</p> <p>YYYYYYY. International Treaties<br/> Kyoto Protocol -<br/> <a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a></p> <p>ZZZZZZZ. Other Policy Drivers</p> | <p>N/A</p> <p>DDDDDDDD. Tax Exemptions<br/> N/A</p> <p>EEEEEEEE. Renewable Transport Fuel Obligations (RTFO)<br/> N/A</p> <p>FFFFFFF. Carbon Credits / Carbon Trading Programs<br/> The European Union emissions trading scheme began in 2005 and now covers the 27 countries of the European Union, and three non-European Union members: Iceland, Liechtenstein, and Norway. Their current target is a 21 per cent cut of 2005 emissions by 2025 (Australia's is a 5% cut of 2000 emissions by 2020).</p> <p>A carbon tax was proposed by the European Commission in 2010, but a carbon tax has not been agreed upon by the 27 member states. The current proposal by the European Commission would charge firms between 4 and 30 euros per metric tonne of CO2.</p> <p>Several European countries have enacted a carbon tax. They include: Denmark, Finland, Ireland, the Netherlands, Norway, Slovenia, Sweden, Switzerland, and the UK.</p> <p>A tax on oil and gas came into effect in 2010. It was estimated to add around €43 to filling a 1000 litre oil tank and €41 to the average annual gas bill.</p> <p>GGGGGGGG. Nutrient Credits / Nutrient Trading Programs<br/> N/A</p> |  |
| Netherlands | <p>HHHHHHHH. Current Regulations</p> <p>I. Direct Agriculture-Related Regulations<br/> Ministry of Economic Affairs, Agriculture and Innovation<br/> <a href="http://www.noorderlink.nl/deelnemers/ministry-of-">http://www.noorderlink.nl/deelnemers/ministry-of-</a></p>  | <p>What incentives are governments providing to encourage anaerobic digesters?</p> <p>KKKKKKKK. Feed-in Tariffs<br/> In the Netherlands the generation of electricity from renewable energy</p>   | <p>I. Case Study or Highlight –<br/> <a href="http://globalsiteplans.com/environmental-design/engineering">http://globalsiteplans.com/environmental-design/engineering</a></p> |

|  | Regulations/Policies   | Incentives   | Comments  |
|--|--|--|---|
|  | <p><u>economic-affairs-agriculture-and-innovation</u></p> <p>After a wide-ranging public debate the Commission presented on 18 November 2010 a Communication on "The CAP towards 2020", which outlines options for the future CAP and launched the debate with the other institutions and with stakeholders.</p> <p>On 12 October 2011 the Commission presented a set of legal proposals designed to make the CAP a more effective policy for a more competitive and sustainable agriculture and vibrant rural areas.</p> <p>On 26 June 2013 a political agreement on the reform of the CAP has been reached between the Commission, the European Parliament and the Council.</p> <p><a href="http://ec.europa.eu/agriculture/cap-post-2013/">http://ec.europa.eu/agriculture/cap-post-2013/</a></p> <p>a. Air Emissions from Farms<br/><b>Common Agricultural Policy</b></p> <p>b. Water Emissions<br/><b>Common Agricultural Policy</b></p> <p>c. Manure Storage<br/><b>Common Agricultural Policy</b></p> <p>d. Nutrient / Fertilizer / Manure Regulations<br/><b>Common Agricultural Policy</b><br/>The <u>Nitrates Directive (1991)</u> aims to protect water quality across Europe by preventing nitrates from agricultural sources polluting ground and surface waters and by promoting the use of good farming practices</p> | <p>sources is promoted through a premium tariff model.</p> <p>On 16 October 2007, Queen Beatrix signed the Dutch feed-in tariff law, the "Besluit stimulerend duurzame energieproductie" (SDE), which entered into force in April 2009.</p> <p>The law is implemented through the implementation regulation 2009, the "Regeling aanwijzing categorieën duurzame energieproductie 2009" which was amended in 2011.</p> <p>The country also initiated the incentive scheme <u>Duurzame Warmte</u> which was scheduled to run until the end of 2011. But the programme came to a sudden halt in February 2011. The new government redefined priorities, freezing the scheme's budget just one month after its start.</p> <p><b>Combustion of biogas from the fermentation of animal refuse/ and other materials is eligible</b><br/><a href="http://www.futurepolicy.org/2637.html">http://www.futurepolicy.org/2637.html</a></p> <p>LLLLLLLLL. Renewable Energy Credits (RECs) / Renewables Obligation Certificates (ROCs)<br/>N/A</p> <p>MMMMMMMMM. Renewable Heat Incentives (RHI)<br/>N/A</p> <p>NNNNNNNN. Tax Exemptions<br/>N/A</p> <p>OOOOOOOOO. Renewable Transport Fuel Obligations (RTFO)<br/>N/A</p> <p>PPPPPPPP. Carbon Credits / Carbon Trading Programs<br/>The European Union emissions trading scheme began in 2005 and now covers the 27 countries of the European Union, and three non-</p> | <p>-environmental-design/sustainable-farming-in-the-21st-century-anaerobic-digestion-in-the-netherlands</p> <p>I. The Netherlands have taken the lead in anaerobic digestion in Europe. They have constructed numerous digestion plants throughout the country in recent years.</p> |

|                    | Regulations/Policies   | Incentives  | Comments |
|--------------------|--|---|----------|
|                    | <p><a href="http://ec.europa.eu/environment/water/water-nitrates/">http://ec.europa.eu/environment/water/water-nitrates/</a></p> <p>II. Renewable Energy-Related Regulations<br/> <b>National Renewable Energy Action Plan</b> – Provides detailed roadmaps of how each Member State expects to reach its legally binding 2020 target for the share of renewable energy in their final energy consumption.<br/> <a href="http://ec.europa.eu/energy/renewables/action_plan_en.htm">http://ec.europa.eu/energy/renewables/action_plan_en.htm</a></p> <p>a. Renewable Energy Generation Targets<br/> Yes.</p> <p>b. Greenhouse Gas (GHG) Emission Reduction Targets<br/> Yes.</p> <p>c. Country-Level Energy Planning</p> <p>IIIIIIII. International Treaties<br/> Kyoto Protocol -<br/> <a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a></p> <p>JJJJJJJJ. Other Policy Drivers</p> | <p>European Union members: Iceland, Liechtenstein, and Norway. Their current target is a 21 per cent cut of 2005 emissions by 2025 (Australia's is a 5% cut of 2000 emissions by 2020). A carbon tax was proposed by the European Commission in 2010, but a carbon tax has not been agreed upon by the 27 member states. The current proposal by the European Commission would charge firms between 4 and 30 euros per metric tonne of CO2.</p> <p>Several European countries have enacted a carbon tax. They include: Denmark, Finland, Ireland, the Netherlands, Norway, Slovenia, Sweden, Switzerland, and the UK.</p> <p>The Netherlands introduced a carbon tax in 1990, which was then replaced by a tax on fuels. In 2007, it introduced a carbon-based tax on packaging, to encourage recycling.</p> <p>QQQQQQQQ. Nutrient Credits / Nutrient Trading Programs<br/> N/A</p> |          |
| <b>New Zealand</b> | <p>RRRRRRRR. Current Regulations</p> <p>I. Direct Agriculture-Related Regulations<br/> Ministry of Primary Industries – Ministry of Agriculture and Forestry<br/> <a href="http://www.mpi.govt.nz/agriculture">http://www.mpi.govt.nz/agriculture</a></p> <p>Agriculture Policy and Sustainability in NZ.<br/> <a href="http://www.ksla.se/wp-content/uploads/2012/11/Philipp-Aerni.pdf">http://www.ksla.se/wp-content/uploads/2012/11/Philipp-Aerni.pdf</a></p>   | <p>What incentives are governments providing to encourage anaerobic digesters?</p> <p>UUUUUUUU. Feed-in Tariffs<br/> New Zealand does not have a FIT program.</p> <p>VVVVVVVV. Renewable Energy Credits (RECs) / Renewables Obligation Certificates (ROCs)<br/> N/A</p>   |          |



|  | Regulations/Policies  | Incentives  | Comments |
|--|---|---|----------|
|  | <p>a. Air Emissions from Farms<br/>Air emission permits<br/><a href="http://www.mfe.govt.nz/publications/sus-dev/risk-radar-sheets-jul06/risk-radar-air-pollution-6.html">http://www.mfe.govt.nz/publications/sus-dev/risk-radar-sheets-jul06/risk-radar-air-pollution-6.html</a></p> <p>b. Water Emissions</p> <p>c. Manure Storage</p> <p>d. Nutrient / Fertilizer / Manure Regulations</p> <p>II. Renewable Energy-Related Regulations</p> <p>a. Renewable Energy Generation Targets<br/>Commits To 90% Renewable Energy By 2025<br/><a href="http://www.businessinsider.com/new-zealand-renewable-energy-2011-09">http://www.businessinsider.com/new-zealand-renewable-energy-2011-09</a></p> <p>b. Greenhouse Gas (GHG) Emission Reduction Targets<br/>Nearly half of New Zealand's total emissions are produced by agriculture, predominantly methane from farm animals and nitrous oxide from soils and fertilizers.</p> <p>c. Country-Level Energy Planning<br/>Bioenergy Options - Initiated to consider the potential contribution of bioenergy to New Zealand's energy future.. The objective of this project is to identify a range of bioenergy options that could provide a meaningful contribution to New Zealand's energy future.<br/><a href="http://www.niwa.co.nz/our-science/energy/research-projects/all/energyscape/bioenergy_options">http://www.niwa.co.nz/our-science/energy/research-projects/all/energyscape/bioenergy_options</a></p> <p>SSSSSSS. International Treaties<br/>Kyoto Protocol -<br/><a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a></p> | <p>WWWWWWWW. Renewable Heat Incentives (RHI)<br/>N/A</p> <p>XXXXXXXX. Tax Exemptions<br/>N/A</p> <p>YYYYYYYY. Renewable Transport Fuel Obligations (RTFO)<br/>N/A</p> <p>ZZZZZZZZ. Carbon Credits / Carbon Trading Programs<br/>The New Zealand Government set up an emissions trading scheme in 2008. The scheme covered forestry initially, and was then expanded in 2010 to cover stationary energy, transport, liquid fossil fuels and industrial processes.</p> <p>AAAAAAAAA. Nutrient Credits / Nutrient Trading Programs<br/>N/A</p> |          |

|              | Regulations/Policies   | Incentives  | Comments |
|--------------|--|---|----------|
|              | TTTTTTTT. Other Policy Drivers<br>N/A  |   |          |
| South Africa | <p>BBBBBBBBB. Current Regulations</p> <p>I. Direct Agriculture-Related Regulations<br/>Anaerobic Digestion and Renewable Energy in South Africa. – There are no laws in South Africa compelling livestock farmer and solid waste disposal sites to treat waste in anaerobic digesters and to capture and destroy the methane produced. There are no regulations in South Africa that require the implementation or renewable energy projects<br/> <a href="http://www.energy.gov.za/files/esources/kyoto/CDM-CPA1-DD%20Farmsecure%20-%20AD%20-%2022%20August%202011.pdf">http://www.energy.gov.za/files/esources/kyoto/CDM-CPA1-DD%20Farmsecure%20-%20AD%20-%2022%20August%202011.pdf</a></p> <p>a. Air Emissions from Farms<br/>Air Quality Regulations<br/> <a href="http://www.naca.org.za/index.php?option=com_content&amp;view=article&amp;id=74:air-quality-and-regulation&amp;catid=37:the-air-quality-act-aqa&amp;Itemid=56">http://www.naca.org.za/index.php?option=com_content&amp;view=article&amp;id=74:air-quality-and-regulation&amp;catid=37:the-air-quality-act-aqa&amp;Itemid=56</a></p> <p>b. Water Emissions</p> <p>c. Manure Storage</p> <p>d. Nutrient / Fertilizer / Manure Regulations</p> <p>II. Renewable Energy-Related Regulations<br/> <b>Renewable Energy Independent Power Producer Procurement Programme (REIPPP)</b> - Designed so as to contribute towards the target of 3 725 megawatts and towards socio-economic and environmentally sustainable growth, and to start and stimulate the renewable industry in South Africa.<br/> <a href="http://www.ipprenewables.co.za/">http://www.ipprenewables.co.za/</a></p> | <p>What incentives are governments providing to encourage anaerobic digesters?</p> <p>EEEEEEEEEE. Feed-in Tariffs<br/> South Africa's National Energy Regulator (NERSA) implemented a system of feed-in tariffs in 2009. The feed-in tariff system was abandoned and replaced by the bidding method in 2011.</p> <p><b>South Africa Renewable Energy Feed-in Tariff (REFIT) Regulatory Guidelines -</b><br/> <a href="http://www.futurepolicy.org/fileadmin/user_upload/Axel/SouthAfrica_FIT_2009.pdf">http://www.futurepolicy.org/fileadmin/user_upload/Axel/SouthAfrica_FIT_2009.pdf</a></p> <p>South Africa, which initially explored feed-in tariffs for renewable energy but then turned instead to competitive tenders.<br/> <a href="http://www.gsb.uct.ac.za/files/Feedintariffsauctions.pdf">http://www.gsb.uct.ac.za/files/Feedintariffsauctions.pdf</a></p> <p>FFFFFFFFF. Renewable Energy Credits (RECs) / Renewables Obligation Certificates (ROCs)<br/> N/A</p> <p>GGGGGGGGG. Renewable Heat Incentives (RHI)<br/> N/A</p> <p>HHHHHHHHH. Tax Exemptions<br/> N/A</p> <p>IIIIIIIII. Renewable Transport Fuel Obligations (RTFO)<br/> N/A</p> <p>JJJJJJJJJ. Carbon Credits / Carbon Trading Programs<br/> South Africa introduced a carbon tax on new vehicle sales in September 2010. South Africa is planning to introduce a carbon tax from 2013, starting at R120 (\$A15) per tonne for emissions above a</p> |          |

|               | Regulations/Policies   | Incentives   | Comments   |
|---------------|--|--|--|
|               | <p>South Africa could become fastest growing renewable energy industry.<br/> <a href="http://www.fierceenergy.com/story/south-africa-could-become-fastest-growing-renewable-energy-industry/2013-10-24">http://www.fierceenergy.com/story/south-africa-could-become-fastest-growing-renewable-energy-industry/2013-10-24</a></p> <p>a. Renewable Energy Generation Targets</p> <p>b. Greenhouse Gas (GHG) Emission Reduction Targets<br/> Yes, 30% by 2020</p> <p>c. Country-Level Energy Planning</p> <p>CCCCCCCC. International Treaties<br/> Kyoto Protocol -<br/> <a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a></p> <p>DDDDDDDD. Other Policy Drivers<br/> N/A</p>                       | <p>threshold. Each company will have 60 per cent of its emissions tax exempt, with higher exemption thresholds for cement, iron, steel, aluminum, ceramics and fugitive emissions as well as trade exposed industries. Agriculture, forestry, land use and waste will not be taxed.</p> <p>KKKKKKKK. Nutrient Credits / Nutrient Trading Programs<br/> N/A</p>   |  |
| <b>Sweden</b> | <p>LLLLLLLL. Current Regulations</p> <p>I. Direct Agriculture-Related Regulations<br/> <b>Common Agricultural Policy</b><br/> As a member of the European Union, Sweden's agriculture is covered by the Common Agricultural Policy. Sweden's overall position on the CAP is that it should continue to undergo reforms towards greater market orientation, greater focus on rural policy and solidarity with poor countries.<br/> <a href="http://www.government.se/sb/d/2160/a/66220">http://www.government.se/sb/d/2160/a/66220</a></p> <p>After a wide-ranging public debate the Commission presented on 18 November 2010 a Communication on "The CAP towards 2020", which outlines options for the future CAP and launched the debate with the other</p> | <p>What incentives are governments providing to encourage anaerobic digesters?<br/> Awaiting additional information from Gustav Rogstrand (<a href="mailto:Gustav.Rogstrand@jti.se">Gustav.Rogstrand@jti.se</a>) on Swedish incentives.</p> <p>000000000. Feed-in Tariffs<br/> Sweden has no feed-in tariff policy</p> <p>PPPPPPPP. Renewable Energy Credits (RECs) / Renewables<br/> Obligation Certificates (ROCs)<br/> N/A</p> <p>QQQQQQQQ. Renewable Heat Incentives (RHI)</p> | <p>I. Sweden is a world leader in upgrading and use of biomethane for transport.</p> <p>I. Biogas covers today 1% of the total road traffic in Sweden.</p> |

|  | Regulations/Policies  | Incentives   | Comments |
|--|---|--|----------|
|  | <p>institutions and with stakeholders.</p> <p>On 12 October 2011 the Commission presented a set of legal proposals designed to make the CAP a more effective policy for a more competitive and sustainable agriculture and vibrant rural areas.</p> <p>On 26 June 2013 a political agreement on the reform of the CAP has been reached between the Commission, the European Parliament and the Council.</p> <p><a href="http://ec.europa.eu/agriculture/cap-post-2013/">http://ec.europa.eu/agriculture/cap-post-2013/</a></p> <p>a. Air Emissions from Farms<br/><b>Common Agricultural Policy</b></p> <p>b. Water Emissions<br/><b>Common Agricultural Policy</b></p> <p>c. Manure Storage<br/><b>Common Agricultural Policy</b></p> <p>d. Nutrient / Fertilizer / Manure Regulations<br/><b>Common Agricultural Policy</b><br/>The <u>Nitrates Directive (1991)</u> aims to protect water quality across Europe by preventing nitrates from agricultural sources polluting ground and surface waters and by promoting the use of good farming practices<br/><a href="http://ec.europa.eu/environment/water/water-nitrates/">http://ec.europa.eu/environment/water/water-nitrates/</a></p> <p>II. Renewable Energy-Related Regulations</p> <p>a. Renewable Energy Generation Targets<br/>Sweden plans to be World's first oil-free economy by</p> | <p>N/A</p> <p>RRRRRRRRR. Tax Exemptions<br/>N/A</p> <p>SSSSSSSSS. Renewable Transport Fuel Obligations (RTFO)<br/>N/A</p> <p>TTTTTTTTT. Carbon Credits / Carbon Trading Programs<br/>The European Union emissions trading scheme began in 2005 and now covers the 27 countries of the European Union, and three non-European Union members: Iceland, Liechtenstein, and Norway. Their current target is a 21 per cent cut of 2005 emissions by 2025 (Australia's is a 5% cut of 2000 emissions by 2020).</p> <p>A carbon tax was proposed by the European Commission in 2010, but a carbon tax has not been agreed upon by the 27 member states. The current proposal by the European Commission would charge firms between 4 and 30 euros per metric tonne of CO2.</p> <p>Several European countries have enacted a carbon tax. They include: Denmark, Finland, Ireland, the Netherlands, Norway, Slovenia, Sweden, Switzerland, and the UK.</p> <p>UUUUUUUUU. Nutrient Credits / Nutrient Trading Programs<br/>N/A</p> |          |

|  | Regulations/Policies  | Incentives | Comments |
|--|---|------------|----------|
|  | <p>2020.<br/> <a href="http://www.erec.org/fileadmin/erec_docs/Projcet_Documents/RES2020/SWEDEN_RES_Policy_Review_Final.pdf">http://www.erec.org/fileadmin/erec_docs/Projcet_Documents/RES2020/SWEDEN_RES_Policy_Review_Final.pdf</a></p> <p><b>National Renewable Energy Action Plan</b> – Provide detailed roadmaps of how each Member State expects to reach its legally binding 2020 target for the share of renewable energy in their final energy consumption.<br/> <a href="http://ec.europa.eu/energy/renewables/action_plan_en.htm">http://ec.europa.eu/energy/renewables/action_plan_en.htm</a></p> <p><b>b. Greenhouse Gas (GHG) Emission Reduction Targets</b><br/> Yes, 40% by 2020</p> <p><b>c. Country-Level Energy Planning</b></p> <p>MMMMMMMMM. International Treaties<br/> Kyoto Protocol -<br/> <a href="http://unfccc.int/kyoto_protocol/items/2830.php">http://unfccc.int/kyoto_protocol/items/2830.php</a></p> <p>NNNNNNNNN. Other Policy Drivers<br/> Deposition of organic waste in landfills was banned in Sweden in 2005.</p> <p>Sweden is conducting cutting edge research and development on AD.</p> <p>Awaiting additional information from Gustav Rogstrand (<a href="mailto:Gustav.Rogstrand@jti.se">Gustav.Rogstrand@jti.se</a>) on R&amp;D efforts.</p> |            |          |

# ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1

6

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|  |  |  |                          |   |             |
|--|--|--|--------------------------|---|-------------|
| 1. DATE OF ORDER<br>05/07/2013   |  | 2. CONTRACT NO. (If any)<br>EP-BPA-12-H-0029 |                          | 6. SHIP TO:   |             |
| 3. ORDER NO.<br>EP-B13H-00031/001  |  | 4. REQUISITION/REFERENCE NO.                 |                          | a. NAME OF CONSIGNEE  |             |
| 5. ISSUING OFFICE (Address correspondence to)<br>HPOD<br>US Environmental Protection Agency<br>Ariel Rios Building<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 3803R<br>Washington DC 20460 |  |  |                          | b. STREET ADDRESS   |             |
|  |  |  |                          | c. CITY   | e. ZIP CODE |
| 7. TO:   |  |  |                          | f. SHIP VIA   |             |
| a. NAME OF CONTRACTOR<br>TETRA TECH, INC.  |  |  |                          | 8. TYPE OF ORDER  |             |
| b. COMPANY NAME  |  |  |                          | <input type="checkbox"/> a. PURCHASE<br><input checked="" type="checkbox"/> b. DELIVERY   |             |
| c. STREET ADDRESS<br>3475 E. FOOTHILL BOULEVARD  |  |  |                          | REFERENCE YOUR:<br><br>Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated. |             |
| d. CITY<br>PASADENA  |  | e. STATE<br>CA                               | f. ZIP CODE<br>911076024 |   |             |
| 9. ACCOUNTING AND APPROPRIATION DATA   |  |  |                          | 10. REQUISITIONING OFFICE<br>OARM   |             |

|  |                              |                        |  |   |  |
|--|------------------------------|------------------------|--|---|--|
| 11. BUSINESS CLASSIFICATION (Check appropriate box(es))  |                              |                        |  | 12. F.O.B. POINT                                |  |
| <input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone<br><input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB |                              |                        |  | Various   |  |
| 13. PLACE OF   |                              | 14. GOVERNMENT B/L NO. |  | 15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) |  |
| a. INSPECTION<br>Destination   | b. ACCEPTANCE<br>Destination |                        |  | Multiple  |  |
| 16. DISCOUNT TERMS   |                              |                        |  |   |  |

## 17. SCHEDULE (See reverse for Rejections)

| ITEM NO.<br>(a) | SUPPLIES OR SERVICES<br>(b)   | QUANTITY ORDERED<br>(c) | UNIT<br>(d) | UNIT PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY ACCEPTED<br>(g) |
|-----------------|---|-------------------------|-------------|-------------------|---------------|--------------------------|
|                 | GSA Contract #: GS-23F-0112L<br>DUNS Number: (b)(4)<br>This modification changes the completion date of this task order to May 7, 2013.<br><br>COR: Allison Costa - 202-343-9468<br>Continued ... |                         |             |                   |               |                          |

|                                     |  |  |                           |                      |                 |                   |                           |
|-------------------------------------|--|--|---------------------------|----------------------|-----------------|-------------------|---------------------------|
| SEE BILLING INSTRUCTIONS ON REVERSE | 18. SHIPPING POINT   |  | 19. GROSS SHIPPING WEIGHT |                      | 20. INVOICE NO. |                   | 17(h) TOTAL (Cont. pages) |
|                                     | 21. MAIL INVOICE TO:   |  |                           |                      |                 |                   |                           |
|                                     | a. NAME<br>RTP Finance Center  |  |                           |                      |                 |                   | \$0.00                    |
|                                     | b. STREET ADDRESS (or P.O. Box)<br>US Environmental Protection Agency<br>RTP-Finance Center<br>Mail Drop D143-02<br>109 TW Alexander Drive |  |                           |                      |                 |                   | \$28,619.00               |
| c. CITY<br>Durham                   |  |  | d. STATE<br>NC            | e. ZIP CODE<br>27711 |                 | 17(i) GRAND TOTAL |                           |

22. UNITED STATES OF AMERICA BY (Signature)

23. NAME (Typed)  
Margaret Kline  
TITLE: CONTRACTING/ORDERING OFFICER

**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO

2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|               |                      |                   |
|---------------|----------------------|-------------------|
| DATE OF ORDER | CONTRACT NO.         | ORDER NO.         |
| 05/07/2013    | EP-BPA-12-H-0029/001 | EP-B13H-00031/001 |

| ITEM NO.<br>(a) | SUPPLIES/SERVICES<br>(b)  | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|---|----------------------------|-------------|----------------------|---------------|-----------------------------|
|                 | <p>Alt COR: Kurt Roos</p> <p>Contract Number: EP-12-H-0029<br/>Call Number: 31<br/>Call Manager: Allison Costa</p> <p>Call Title: Administrative Support for the AgSTAR Program</p> <p>STATEMENT OF WORK</p> <p>I. BACKGROUND</p> <p>AgSTAR is a voluntary outreach and partnership program designed to reduce livestock-generated methane emissions and achieve other air and water quality benefits by promoting commercially demonstrated technologies that treat and stabilize waste streams and combust off gases generated from anaerobic processes. AgSTAR provides a variety of outreach, educational, and technical materials in support of this goal through its website.</p> <p>II. OBJECTIVES</p> <p>The objective of this task order is to communicate with AgSTAR's stakeholders to announce the availability of program information, as well as respond to requests related to the information provided by the AgSTAR program.</p> <p>III. SPECIFIC TASKS</p> <p>Task 1: Technical Support</p> <p>As the principal government agency providing information on anaerobic digestion in the agricultural industry, the AgSTAR program receives numerous technical questions from individuals, either through an email request line or submitted directly to a staff member. Through this task, the Contractor shall provide technical support to EPA to establish and maintain an email request line (including an email mailbox/address for this request line), as Continued ...</p> |                            |             |                      |               |                             |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00

**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO  
3

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|                             |                                      |                                |
|-----------------------------|--------------------------------------|--------------------------------|
| DATE OF ORDER<br>05/07/2013 | CONTRACT NO.<br>EP-BPA-12-H-0029/001 | ORDER NO.<br>EP-B13H-00031/001 |
|-----------------------------|--------------------------------------|--------------------------------|

| ITEM NO.<br>(a) | SUPPLIES/SERVICES<br>(b)   | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|--|----------------------------|-------------|----------------------|---------------|-----------------------------|
|                 | <p>well as to answer routine requests through other channels. The email address for this hotline shall be publicized on the AgSTAR website.</p> <p>The Contractor shall answer technical requests that are received via the AgSTAR "hotline" or referred by EPA. The Contractor shall provide notice of receiving all requests and answers to simple or routine requests within 48 hours of receipt. The Contractor shall provide answers to more in-depth requests within one week of receipt. Requests requiring additional time shall be discussed with the EPA COR. In addition, the Contractor shall provide a monthly summary of these requests to EPA, tabulating the number of requests received, summarizing common topics of the requests, identifying any trends, and noting if certain topics could be addressed on the website (such as through an "FAQ") in order to reduce the number of future requests. The email request line received approximately 25 requests per month during the past year.</p> <p>The Contractor shall also provide support for a limited number of "quick-turnaround" requests from the EPA COR. This generally consists of compiling information available on the AgSTAR website or other program materials into graphs, tables, or concise written summaries in support of a specific request (e.g. number of livestock anaerobic digester projects that have become operational and closed over the last three years or the five most important factors affecting codigestion projects). EPA anticipates that there may be one to two such requests per month.</p> <p>Task 1 Deliverables:<br/> 1. Answers to quick turnaround requests<br/> Due: Ongoing; within 24 hours of receipt from EPA COR written direction;<br/> Continued ...</p> |                            |             |                      |               |                             |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00



**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO  
4

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|                             |                                      |                                |
|-----------------------------|--------------------------------------|--------------------------------|
| DATE OF ORDER<br>05/07/2013 | CONTRACT NO.<br>EP-BPA-12-H-0029/001 | ORDER NO.<br>EP-B13H-00031/001 |
|-----------------------------|--------------------------------------|--------------------------------|

| ITEM NO.<br>(a) | SUPPLIES/SERVICES<br>(b)   | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|--|----------------------------|-------------|----------------------|---------------|-----------------------------|
|                 | <p>2. Answers to routine requests; notice for in-depth requests.<br/>Due: Ongoing; within 48 hours of receipt via website or from EPA COR written direction.</p> <p>3. Answers to in-depth requests<br/>Due: Ongoing; within 1 week of receipt via website or from EPA COR written direction.</p> <p>4. Monthly request summary Monthly, by the 7th of each month</p> <p>Task 2: Maintain AgSTAR Listserv<br/>The AgSTAR email listserv is used to communicate important announcements to AgSTAR stakeholders.</p> <p>The Contractor shall establish and maintain an email listserv for the AgSTAR program. AgSTAR currently has a list of approximately 3000 email addresses for contacts who subscribed to the AgSTAR listserv under contract EP-W-07-067. Under this task order, the Contractor shall include these addresses, as well as provide options for and accommodate requests for subscription or deletion from this list. The Contractor shall periodically draft and send emails to this list concerning important or time-sensitive announcements, such as funding opportunities or upcoming events related to anaerobic digestion. These emails should have a consistent banner or set of banners (headers with images and the AgSTAR logo), reflecting the AgSTAR theme. For purposes of this task order, the Contractor may estimate that two emails may be sent to the entire listserv per month. No content shall be sent to the listserv without final content review and approval by the EPA COR.</p> <p>Task 2 Deliverables<br/>Continued ...</p> |                            |             |                      |               |                             |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00

**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO  
5

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|                             |                                      |                                |
|-----------------------------|--------------------------------------|--------------------------------|
| DATE OF ORDER<br>05/07/2013 | CONTRACT NO.<br>EP-BPA-12-H-0029/001 | ORDER NO.<br>EP-B13H-00031/001 |
|-----------------------------|--------------------------------------|--------------------------------|

| ITEM NO.<br>(a) | SUPPLIES/SERVICES<br>(b)   | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|--|----------------------------|-------------|----------------------|---------------|-----------------------------|
|                 | <p>Establish listserv Within 2 weeks of award</p> <p>2. Maintain listserv<br/>Due: Ongoing</p> <p>3. Draft email announcements Within 3 days<br/>of written technical direction from EPA COR;</p> <p>4. Finalize and send email<br/>Due: Within 2 days of comments &amp; approval<br/>from EPA COR written direction.</p> <p>Task 3: Webinar Support<br/>AgSTAR regularly communicates with state-<br/>and regional- level organizations to<br/>exchange information on local and national<br/>trends related to anaerobic digestion<br/>projects in the livestock sector. For the<br/>next 12 months, AgSTAR plans to pilot a<br/>series of monthly webinars (one per month)<br/>to facilitate this communication.</p> <p>The Contractor shall assist EPA in hosting<br/>these webinars by providing the webinar<br/>software, providing any needed registration<br/>information/services, joining the webinar<br/>to provide technical support to attendees<br/>who experience problems, and providing a<br/>summary of the webinar that includes<br/>attendees and a summary of the information<br/>discussed. EPA anticipates that the<br/>webinars will be one hour in duration and<br/>have between 20 and 50 attendees. The EPA<br/>COR has a teleconference line that may be<br/>used if needed.</p> <p>&amp;#8195;<br/>Task 3 Deliverables</p> <p>1. Establish webinar software<br/>Due: Within one week of award</p> <p>2. Provide EPA with link to webinar<br/>Due: One week before each webinar</p> <p>3. Provide webinar summary<br/>Due: Three days after each webinar<br/>Continued ...</p> |                            |             |                      |               |                             |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00

ORDER FOR SUPPLIES OR SERVICES  
SCHEDULE - CONTINUATION

PAGE NO  
6

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|               |                      |                   |
|---------------|----------------------|-------------------|
| DATE OF ORDER | CONTRACT NO.         | ORDER NO.         |
| 05/07/2013    | EP-BPA-12-H-0029/001 | EP-B13H-00031/001 |

| ITEM NO.<br>(a) | SUPPLIES/SERVICES<br>(b)  | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|---|----------------------------|-------------|----------------------|---------------|-----------------------------|
|                 | <p>Task 4: Management<br/>This task shall provide for management and oversight of all activities being undertaking under this task order. EPA expects that the Contractor shall keep track of the status of all ongoing activities and deliver them on time, without reminder from the EPA COR. The Contractor shall also inform the EPA COR of any issues or problems encountered during the month or anticipated in the upcoming month(s).<br/>Admin Office:<br/>HPOD<br/>US Environmental Protection Agency<br/>Ariel Rios Building<br/>1200 Pennsylvania Avenue, N. W.<br/>Mail Code: 3803R<br/>Washington DC 20460<br/>Period of Performance: 11/27/2012 to 05/07/2013</p> |                            |             |                      |               |                             |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00

|   |  |  |  |  |  |
|---|--|--|--|--|--|
| <b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>   |  | 1. CONTRACT ID CODE  |  | PAGE OF PAGES<br>1 2   |  |
| 2. AMENDMENT/MODIFICATION NO.<br>002  |  | 3. EFFECTIVE DATE<br>05/08/2013  |  | 4. REQUISITION/PURCHASE REQ. NO.   |  |
| 5. PROJECT NO. (If applicable)  |  | 6. ISSUED BY CODE<br>HPOD  |  | 7. ADMINISTERED BY (If other than Item 6) CODE   |  |
| HPOD<br>US Environmental Protection Agency<br>Ariel Rios Building<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 3803R<br>Washington DC 20460 |  | 8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)<br>TETRA TECH, INC.<br>3475 E. FOOTHILL BOULEVARD<br>PASADENA CA 911076024 |  | 9A. AMENDMENT OF SOLICITATION NO.<br>9B. DATED (SEE ITEM 11)   |  |
| CODE (b)(4)   |  | FACILITY CODE  |  | 10A. MODIFICATION OF CONTRACT/ORDER NO.<br>EP-BFA-12-H-0029<br>EP-B13H-00031<br>10B. DATED (SEE ITEM 13)<br>11/23/2012 |  |

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended. ☐ is not extended.  
Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

**12. ACCOUNTING AND APPROPRIATION DATA (If required)**

See Schedule

**13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

|           |   |
|-----------|---|
| CHECK ONE | A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.  |
| X         | B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b). |
|           | C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:  |
|           | D. OTHER (Specify type of modification and authority)   |

**E. IMPORTANT:** Contractor ☒ is not, ☐ is required to sign this document and return \_\_\_\_\_ 0 \_\_\_\_\_ copies to the issuing office.

**14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)**

GSA Contract #: GS-23F-0112L

DUNS Number: (b)(4)

This modification changes the facesheet to the SF30 for the completion date change to May 7, 2013.

COR: Allison Costa - 202-343-9468

Alt COR: Kurt Roos

Contract Number: EP-12-H-0029

Call Number: 31

Call Manager: Allison Costa

Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

|   |                  |  |                  |
|---|------------------|--|------------------|
| 15A. NAME AND TITLE OF SIGNER (Type or print)                           |                  | 16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)<br>Margaret Kline |                  |
| 15B. CONTRACTOR/OFFEROR<br><br>(Signature of person authorized to sign) | 15C. DATE SIGNED | 16B. UNITED STATES OF AMERICA<br><br>(Signature of Contracting Officer)      | 16C. DATE SIGNED |

## CONTINUATION SHEET

REFERENCE NO. OF DOCUMENT BEING CONTINUED

EP-BPA-12-H-0029/EP-B13H-00031/002

PAGE OF

2

2

NAME OF OFFEROR OR CONTRACTOR

TETRA TECH, INC.

| ITEM NO.<br>(A) | SUPPLIES/SERVICES<br>(B)  | QUANTITY<br>(C) | UNIT<br>(D) | UNIT PRICE<br>(E) | AMOUNT<br>(F) |
|-----------------|---|-----------------|-------------|-------------------|---------------|
|                 | Payment:<br>RTP Finance Center<br>US Environmental Protection Agency<br>RTP-Finance Center<br>Mail Drop D143-02<br>109 TW Alexander Drive<br>Durham NC 27711<br>Period of Performance: 11/27/2012 to 05/07/2013 |                 |             |                   |               |

# ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1

2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|  |                              |  |                          |   |                |
|--|------------------------------|--|--------------------------|---|----------------|
| 1. DATE OF ORDER<br>03/27/2013   |                              | 2. CONTRACT NO. (If any)<br>EP-BPA-12-H-0029 |                          | 6. SHIP TO:<br>a. NAME OF CONSIGNEE<br>OAR/OAP/CCD  |                |
| 3. ORDER NO.<br>EP-B13H-00104  |                              | 4. REQUISITION/REFERENCE NO.<br>See Schedule |                          |   |                |
| 5. ISSUING OFFICE (Address correspondence to)<br>HPOD<br>US Environmental Protection Agency<br>Ariel Rios Building<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 3803R<br>Washington DC 20460   |                              |  |                          | b. STREET ADDRESS<br>US Environmental Protection Agency<br>1200 Pennsylvania Avenue NW<br>Mail Code: 62107J<br>OAP/CCD  |                |
|  |                              |  |                          | c. CITY<br>Washington   | d. STATE<br>DC |
|  |                              |  |                          | e. ZIP CODE<br>20460  |                |
| 7. TO:<br>a. NAME OF CONTRACTOR<br>TETRA TECH, INC.  |                              |  |                          | f. SHIP VIA   |                |
| b. COMPANY NAME  |                              |  |                          | 8. TYPE OF ORDER  |                |
| c. STREET ADDRESS<br>3475 E. FOOTHILL BOULEVARD  |                              |  |                          | <input type="checkbox"/> a. PURCHASE<br>REFERENCE YOUR:<br><br><input checked="" type="checkbox"/> b. DELIVERY<br>Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract. |                |
| d. CITY<br>PASADENA  |                              | e. STATE<br>CA                               | f. ZIP CODE<br>911076024 |   |                |
| 9. ACCOUNTING AND APPROPRIATION DATA<br>See Schedule   |                              |  |                          | 10. REQUISITIONING OFFICE<br>OARM   |                |
| 11. BUSINESS CLASSIFICATION (Check appropriate box(es))  |                              |  |                          |   |                |
| <input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone<br><input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB |                              |  |                          |   |                |
| 12. F.O.B. POINT<br>Destination  |                              |  |                          |   |                |
| 13. PLACE OF   |                              | 14. GOVERNMENT B/L NO.                       |                          | 15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date)   |                |
| a. INSPECTION<br>Destination   | b. ACCEPTANCE<br>Destination |  |                          |   |                |

## 17. SCHEDULE (See reverse for Rejections)

| ITEM NO.<br>(a) | SUPPLIES OR SERVICES<br>(b)   | QUANTITY ORDERED<br>(c) | UNIT<br>(d) | UNIT PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY ACCEPTED<br>(g) |
|-----------------|---|-------------------------|-------------|-------------------|---------------|--------------------------|
|                 | GSA Contract #: GS-23F-0112L<br>DUNS Number: (b)(4)<br>The total estimated cost for this task order entitled "Technical Support for the Domestic AgSTAR Program" is \$150,778 for the following Tasks: 3,4,8 & 9<br>Continued ... |                         |             |                   |               |                          |

|                                     |  |  |                           |                      |                 |                   |                           |
|-------------------------------------|--|--|---------------------------|----------------------|-----------------|-------------------|---------------------------|
| SEE BILLING INSTRUCTIONS ON REVERSE | 18. SHIPPING POINT   |  | 19. GROSS SHIPPING WEIGHT |                      | 20. INVOICE NO. |                   | 17(h) TOTAL (Cont. pages) |
|                                     | 21. MAIL INVOICE TO:   |  |                           |                      |                 |                   |                           |
|                                     | a. NAME<br>RTP Finance Center  |  |                           |                      |                 |                   | \$0.00                    |
|                                     | b. STREET ADDRESS (or P.O. Box)<br>US Environmental Protection Agency<br>RTP-Finance Center<br>Mail Drop D143-02<br>109 TW Alexander Drive |  |                           |                      |                 |                   | \$150,778.00              |
| c. CITY<br>Durham                   |  |  | d. STATE<br>NC            | e. ZIP CODE<br>27711 |                 | 17(i) GRAND TOTAL |                           |

22. UNITED STATES OF AMERICA BY (Signature)

23. NAME (Typed)  
Margaret Kline  
TITLE: CONTRACTING/ORDERING OFFICER

**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO  
2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|                             |                                  |                            |
|-----------------------------|----------------------------------|----------------------------|
| DATE OF ORDER<br>03/27/2013 | CONTRACT NO.<br>EP-BPA-12-H-0029 | ORDER NO.<br>EP-B13H-00104 |
|-----------------------------|----------------------------------|----------------------------|

| ITEM NO.<br>(a) | SUPPLIES/SERVICES<br>(b)  | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|---|----------------------------|-------------|----------------------|---------------|-----------------------------|
| 0001            | <p>(Management). \$75,000 in incremental funding is obligated leaving \$75,778 needed to fully fund this task order through its completion date of 26 March 2014.</p> <p>COR: Allison Costa 202-343-9468<br/>Alt COR: Kurt Roos 202-343-9041<br/>CO: Margaret Kline<br/>Admin Office:<br/>HPOD<br/>US Environmental Protection Agency<br/>Ariel Rios Building<br/>1200 Pennsylvania Avenue, N. W.<br/>Mail Code: 3803R<br/>Washington DC 20460<br/>Period of Performance: 03/27/2013 to 03/26/2014</p> <p>Task Order Award<br/>Requisition No: PR-OAR-13-00064,<br/>PR-OAR-13-00743</p> <p>Accounting Info:<br/>13-14-B-58F4-101A46-2505---1358FC3573-001<br/>BFY: 13 EFY: 14 Fund: B Budget<br/>Org: 58F4 Program (PRC): 101A46<br/>Budget (BOC): 2505 DCN - Line ID: 1358FC3573-001<br/>Funding Flag: Partial<br/>Funded: \$7,197.00</p> <p>Accounting Info:<br/>12-13-B-58F4-101A46XP4-2505---1358FC3513-001<br/>BFY: 12 EFY: 13 Fund: B Budget<br/>Org: 58F4 Program (PRC): 101A46XP4<br/>Budget (BOC): 2505 DCN - Line ID: 1358FC3513-001<br/>Funding Flag: Partial<br/>Funded: \$67,803.00</p> <p>The obligated amount of award: \$75,000.00.<br/>The total for this award is shown in box 17(i).</p> |                            |             |                      |               |                             |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00

# ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1

2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|  |  |   |                          |  |                      |
|--|--|---|--------------------------|--|----------------------|
| 1. DATE OF ORDER<br>07/17/2013   |  | 2. CONTRACT NO. (If any)<br>EP-BPA-12-H-0029    |                          | 6. SHIP TO:<br>a. NAME OF CONSIGNEE<br>OAR/OAP/CCD   |                      |
| 3. ORDER NO.<br>EP-B13H-00104/001  |  | 4. REQUISITION/REFERENCE NO.<br>PR-OAR-13-01471 |                          |  |                      |
| 5. ISSUING OFFICE (Address correspondence to)<br>HPOD<br>US Environmental Protection Agency<br>Ariel Rios Building<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 3803R<br>Washington DC 20460 |  |   |                          | b. STREET ADDRESS<br>US Environmental Protection Agency<br>1200 Pennsylvania Avenue NW<br>Mail Code: 62107J<br>OAP/CCD   |                      |
|  |  |   |                          | c. CITY<br>Washington  | e. ZIP CODE<br>20460 |
| 7. TO:<br>a. NAME OF CONTRACTOR<br>TETRA TECH, INC.  |  |   |                          | f. SHIP VIA  |                      |
| b. COMPANY NAME  |  |   |                          | 8. TYPE OF ORDER<br><input type="checkbox"/> a. PURCHASE<br>REFERENCE YOUR:<br><br><br>Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.                    |                      |
| c. STREET ADDRESS<br>3475 E. FOOTHILL BOULEVARD  |  |   |                          | <input checked="" type="checkbox"/> b. DELIVERY<br>Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract. |                      |
| d. CITY<br>PASADENA  |  | e. STATE<br>CA                                  | f. ZIP CODE<br>911076024 |  |                      |
| 9. ACCOUNTING AND APPROPRIATION DATA<br>See Schedule   |  |   |                          | 10. REQUISITIONING OFFICE<br>OARM  |                      |

|   |  |                              |  |  |  |
|---|--|------------------------------|--|--|--|
| 11. BUSINESS CLASSIFICATION (Check appropriate box(es))<br><input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone<br><input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB |  |                              |  | 12. F.O.B. POINT<br>Destination                    |  |
| 13. PLACE OF<br>a. INSPECTION<br>Destination  |  | b. ACCEPTANCE<br>Destination |  | 14. GOVERNMENT B/L NO.                             |  |
|   |  |                              |  | 15. DELIVER TO F.O.B. POINT<br>ON OR BEFORE (Date) |  |
|   |  |                              |  | 16. DISCOUNT TERMS                                 |  |

## 17. SCHEDULE (See reverse for Rejections)

| ITEM NO.<br>(a) | SUPPLIES OR SERVICES<br>(b)  | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|--|----------------------------|-------------|----------------------|---------------|-----------------------------|
|                 | GSA Contract #: GS-23F-0112L<br>DUNS Number: (b)(4)<br>The purpose of this modification is to obligate \$75,778 to fully fund this task order through its completion date of 26 March 2014.<br>Continued ... |                            |             |                      |               |                             |

|   |   |  |                           |                      |                 |              |                                    |
|---|---|--|---------------------------|----------------------|-----------------|--------------|------------------------------------|
| SEE BILLING<br>INSTRUCTIONS<br>ON REVERSE | 18. SHIPPING POINT  |  | 19. GROSS SHIPPING WEIGHT |                      | 20. INVOICE NO. |              | 17(h)<br>TOTAL<br>(Cont.<br>pages) |
|   | 21. MAIL INVOICE TO:<br>a. NAME<br>RTP Finance Center   |  |                           |                      |                 |              |                                    |
|   | b. STREET ADDRESS<br>(or P.O. Box)<br>US Environmental Protection Agency<br>RTP-Finance Center<br>Mail Drop D143-02<br>109 TW Alexander Drive |  |                           |                      |                 |              | 17(i)<br>GRAND<br>TOTAL            |
|   | c. CITY<br>Durham   |  | d. STATE<br>NC            | e. ZIP CODE<br>27711 |                 | \$150,778.00 |                                    |

22. UNITED STATES OF  
AMERICA BY (Signature)

23. NAME (Typed)  
Margaret Kline  
TITLE: CONTRACTING/ORDERING OFFICER



# ORDER FOR SUPPLIES OR SERVICES

## SCHEDULE - CONTINUATION

PAGE NO  
2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|                             |                                      |                                |
|-----------------------------|--------------------------------------|--------------------------------|
| DATE OF ORDER<br>07/17/2013 | CONTRACT NO.<br>EP-BPA-12-H-0029/001 | ORDER NO.<br>EP-B13H-00104/001 |
|-----------------------------|--------------------------------------|--------------------------------|

| ITEM NO.<br>(a) | SUPPLIES/SERVICES<br>(b)   | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|--|----------------------------|-------------|----------------------|---------------|-----------------------------|
|                 | <p>COR: Allison Costa 202-343-9468<br/>Alt COR: Kurt Roos 202-343-9041<br/>CO: Margaret Kline</p> <p>NEW ACCOUNTING CODE ADDED:<br/>Account code:<br/>13-14-B-58F4-101A46-2505---1358FC3690-001<br/>Beginning FiscalYear 13<br/>Ending Fiscal Year 14<br/>Fund (Appropriation) B<br/>Budget Organization 58F4<br/>Program (PRC) 101A46<br/>Budget (BOC) 2505<br/>DCN-LineID 1358FC3690-001<br/>Amount: \$75,778.00</p> <p>Admin Office:<br/>HPOD<br/>US Environmental Protection Agency<br/>Ariel Rios Building<br/>1200 Pennsylvania Avenue, N. W.<br/>Mail Code: 3803R<br/>Washington DC 20460<br/>Period of Performance: 03/27/2013 to<br/>03/26/2014</p> |                            |             |                      |               |                             |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00

# ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1

2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|  |  |   |                          |  |                      |
|--|--|---|--------------------------|--|----------------------|
| 1. DATE OF ORDER<br>05/08/2013   |  | 2. CONTRACT NO. (If any)<br>EP-BPA-12-H-0029    |                          | 6. SHIP TO:<br>a. NAME OF CONSIGNEE<br>OAR/OAP/CCD   |                      |
| 3. ORDER NO.<br>EP-B13H-00120  |  | 4. REQUISITION/REFERENCE NO.<br>PR-OAR-13-01085 |                          |  |                      |
| 5. ISSUING OFFICE (Address correspondence to)<br>HPOD<br>US Environmental Protection Agency<br>Ariel Rios Building<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 3803R<br>Washington DC 20460 |  |   |                          | b. STREET ADDRESS<br>US Environmental Protection Agency<br>1200 Pennsylvania Avenue NW<br>Mail Code: 62107J<br>OAP/CCD   |                      |
|  |  |   |                          | c. CITY<br>Washington  | e. ZIP CODE<br>20460 |
| 7. TO:<br>a. NAME OF CONTRACTOR<br>TETRA TECH, INC.  |  |   |                          | f. SHIP VIA  |                      |
| b. COMPANY NAME  |  |   |                          | 8. TYPE OF ORDER<br><input type="checkbox"/> a. PURCHASE<br>REFERENCE YOUR:<br><br><br>Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.                    |                      |
| c. STREET ADDRESS<br>3475 E. FOOTHILL BOULEVARD  |  |   |                          | <input checked="" type="checkbox"/> b. DELIVERY<br>Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract. |                      |
| d. CITY<br>PASADENA  |  | e. STATE<br>CA                                  | f. ZIP CODE<br>911076024 |  |                      |
| 9. ACCOUNTING AND APPROPRIATION DATA<br>See Schedule   |  |   |                          | 10. REQUISITIONING OFFICE<br>OARM  |                      |

|   |  |                              |  |  |  |
|---|--|------------------------------|--|--|--|
| 11. BUSINESS CLASSIFICATION (Check appropriate box(es))<br><input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone<br><input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB |  |                              |  | 12. F.O.B. POINT<br>Destination                    |  |
| 13. PLACE OF<br>a. INSPECTION<br>Destination  |  | b. ACCEPTANCE<br>Destination |  | 14. GOVERNMENT B/L NO.                             |  |
|   |  |                              |  | 15. DELIVER TO F.O.B. POINT<br>ON OR BEFORE (Date) |  |
|   |  |                              |  | 16. DISCOUNT TERMS                                 |  |

## 17. SCHEDULE (See reverse for Rejections)

| ITEM NO.<br>(a) | SUPPLIES OR SERVICES<br>(b)  | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|--|----------------------------|-------------|----------------------|---------------|-----------------------------|
|                 | GSA Contract #: GS-23F-0112L<br>DUNS Number: (b)(4)<br>The total estimated cost for task order 120 "Administrative Services for the AgSTAR Program" is \$28,071 for 247 labor hours.<br>The task order is fully funded through its Continued ... |                            |             |                      |               |                             |

|   |   |  |                           |                |                      |  |                                    |
|---|---|--|---------------------------|----------------|----------------------|--|------------------------------------|
| SEE BILLING<br>INSTRUCTIONS<br>ON REVERSE | 18. SHIPPING POINT  |  | 19. GROSS SHIPPING WEIGHT |                | 20. INVOICE NO.      |  | 17(h)<br>TOTAL<br>(Cont.<br>pages) |
|   | 21. MAIL INVOICE TO:  |  |                           |                |                      |  |                                    |
|   | a. NAME<br>RTP Finance Center   |  |                           |                |                      |  | \$28,071.00                        |
|   | b. STREET ADDRESS<br>(or P.O. Box)<br>US Environmental Protection Agency<br>RTP-Finance Center<br>Mail Drop D143-02<br>109 TW Alexander Drive |  |                           |                |                      |  | \$28,071.00                        |
| c. CITY<br>Durham                         |   |  |                           | d. STATE<br>NC | e. ZIP CODE<br>27711 |  | 17(i)<br>GRAND<br>TOTAL            |

22. UNITED STATES OF  
AMERICA BY (Signature)

23. NAME (Typed)  
Margaret Kline  
TITLE: CONTRACTING/ORDERING OFFICER

**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO  
2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|                             |                                  |                            |
|-----------------------------|----------------------------------|----------------------------|
| DATE OF ORDER<br>05/08/2013 | CONTRACT NO.<br>EP-BPA-12-H-0029 | ORDER NO.<br>EP-B13H-00120 |
|-----------------------------|----------------------------------|----------------------------|

| ITEM NO.<br>(a) | SUPPLIES/SERVICES<br>(b)   | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|--|----------------------------|-------------|----------------------|---------------|-----------------------------|
| 0001            | <p>completion date of November 15, 2013.</p> <p>COR: Allison Costa 202-343-9469<br/>Alt COR: Kurt Roos 202-343-9041<br/>CO: Margaret Kline 202-564-4238<br/>Admin Office:<br/>HPOD<br/>US Environmental Protection Agency<br/>Ariel Rios Building<br/>1200 Pennsylvania Avenue, N. W.<br/>Mail Code: 3803R<br/>Washington DC 20460</p> <p>Accounting Info:<br/>13-14-B-58F4-101A46-2505---1358FC3638-001<br/>BFY: 13 EFY: 14 Fund: B Budget Org: 58F4<br/>Program (PRC): 101A46 Budget (BOC): 2505<br/>DCN - Line ID: 1358FC3638-001<br/>Period of Performance: 05/01/2013 to<br/>12/29/2013</p> <p>New task order Admin Services for AgSTAR</p> <p>Period of Performance: 05/01/2013 to<br/>11/15/2013</p> <p>The obligated amount of award: \$28,071.00.<br/>The total for this award is shown in box<br/>17(i).</p> |                            |             |                      | 28,071.00     |                             |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$28,071.00

|  |  |                                 |  |   |  |  |  |
|--|--|---------------------------------|--|---|--|--|--|
| <b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>  |  |                                 |  | 1. CONTRACT ID CODE                       |  | PAGE OF PAGES<br>1 2   |  |
| 2. AMENDMENT/MODIFICATION NO.<br>001   |  | 3. EFFECTIVE DATE<br>11/16/2013 |  | 4. REQUISITION/PURCHASE REQ. NO.          |  | 5. PROJECT NO. (If applicable)   |  |
| 6. ISSUED BY<br>HPOD   |  | CODE<br>HPOD                    |  | 7. ADMINISTERED BY (If other than Item 6) |  | CODE   |  |
| HPOD<br>US Environmental Protection Agency<br>Ariel Rios Building<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 3803R<br>Washington DC 20460            |  |                                 |  |   |  |  |  |
| 8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)<br><br>TETRA TECH, INC.<br>3475 E. FOOTHILL BOULEVARD<br>PASADENA CA 911076024 |  |                                 |  | (x)                                       |  | 9A. AMENDMENT OF SOLICITATION NO.  |  |
|  |  |                                 |  |   |  | 9B. DATED (SEE ITEM 11)  |  |
|  |  |                                 |  | x   |  | 10A. MODIFICATION OF CONTRACT/ORDER NO.<br>EP-BFA-12-H-0029<br>EP-B13H-00120 |  |
|  |  |                                 |  |   |  | 10B. DATED (SEE ITEM 13)<br>05/08/2013                                       |  |
| CODE<br>(b)(4)   |  |                                 |  | FACILITY CODE                             |  |  |  |

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended. ☐ is not extended.  
Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

**12. ACCOUNTING AND APPROPRIATION DATA (If required)**

See Schedule

**13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

|           |   |
|-----------|---|
| CHECK ONE | A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.  |
| X         | B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b). |
|           | C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:  |
|           | D. OTHER (Specify type of modification and authority)   |

**E. IMPORTANT:** Contractor ☒ is not, ☐ is required to sign this document and return \_\_\_\_\_ 0 \_\_\_\_\_ copies to the issuing office.

**14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)**

GSA Contract #: GS-23F-0112L

DUNS Number: (b)(4)

The completion date is extended to December 15, 2013.

COR: Allison Costa 202-343-9469

Alt COR: Kurt Roos 202-343-9041

CO: Margaret Kline 202-564-4238

Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

|   |                  |  |                                |
|---|------------------|--|--------------------------------|
| 15A. NAME AND TITLE OF SIGNER (Type or print)                           |                  | 16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)<br>Margaret Kline |                                |
| 15B. CONTRACTOR/OFFEROR<br><br>(Signature of person authorized to sign) | 15C. DATE SIGNED | 16B. UNITED STATES OF AMERICA<br><br>(Signature of Contracting Officer)      | 16C. DATE SIGNED<br>10/30/2013 |

## CONTINUATION SHEET

REFERENCE NO. OF DOCUMENT BEING CONTINUED  
EP-BPA-12-H-0029/EP-B13H-00120/001PAGE OF  
2 2NAME OF OFFEROR OR CONTRACTOR  
TETRA TECH, INC.

| ITEM NO.<br>(A) | SUPPLIES/SERVICES<br>(B)  | QUANTITY<br>(C) | UNIT<br>(D) | UNIT PRICE<br>(E) | AMOUNT<br>(F) |
|-----------------|---|-----------------|-------------|-------------------|---------------|
|                 | Payment:<br>RTP Finance Center<br>US Environmental Protection Agency<br>RTP-Finance Center<br>Mail Drop D143-02<br>109 TW Alexander Drive<br>Durham NC 27711<br>Period of Performance: 05/08/2013 to 12/15/2013 |                 |             |                   |               |

# ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1

2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|  |  |   |                          |  |                      |
|--|--|---|--------------------------|--|----------------------|
| 1. DATE OF ORDER<br>05/21/2014   |  | 2. CONTRACT NO. (If any)<br>EP-BPA-12-H-0029    |                          | 6. SHIP TO:<br>a. NAME OF CONSIGNEE<br>OAR/OAP/CCD   |                      |
| 3. ORDER NO.<br>EP-B14H-00144  |  | 4. REQUISITION/REFERENCE NO.<br>PR-OAR-14-00965 |                          |  |                      |
| 5. ISSUING OFFICE (Address correspondence to)<br>HPOD<br>US Environmental Protection Agency<br>Ariel Rios Building<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 3803R<br>Washington DC 20460 |  |   |                          | b. STREET ADDRESS<br>US Environmental Protection Agency<br>1200 Pennsylvania Avenue NW<br>Mail Code: 62107J<br>OAP/CCD   |                      |
|  |  |   |                          | c. CITY<br>Washington  | e. ZIP CODE<br>20460 |
| 7. TO:<br>a. NAME OF CONTRACTOR<br>TETRA TECH, INC.  |  |   |                          | f. SHIP VIA  |                      |
| b. COMPANY NAME  |  |   |                          | 8. TYPE OF ORDER<br><input type="checkbox"/> a. PURCHASE<br>REFERENCE YOUR:<br><br><br>Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.                    |                      |
| c. STREET ADDRESS<br>3475 E. FOOTHILL BOULEVARD  |  |   |                          | <input checked="" type="checkbox"/> b. DELIVERY<br>Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract. |                      |
| d. CITY<br>PASADENA  |  | e. STATE<br>CA                                  | f. ZIP CODE<br>911076024 |  |                      |
| 9. ACCOUNTING AND APPROPRIATION DATA<br>See Schedule   |  |   |                          | 10. REQUISITIONING OFFICE<br>OARM  |                      |

|   |  |                              |  |  |  |
|---|--|------------------------------|--|--|--|
| 11. BUSINESS CLASSIFICATION (Check appropriate box(es))<br><input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone<br><input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB |  |                              |  | 12. F.O.B. POINT<br>Destination                    |  |
| 13. PLACE OF<br>a. INSPECTION<br>Destination  |  | b. ACCEPTANCE<br>Destination |  | 14. GOVERNMENT B/L NO.                             |  |
|   |  |                              |  | 15. DELIVER TO F.O.B. POINT<br>ON OR BEFORE (Date) |  |
|   |  |                              |  | 16. DISCOUNT TERMS                                 |  |

## 17. SCHEDULE (See reverse for Rejections)

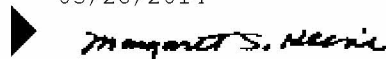
| ITEM NO.<br>(a) | SUPPLIES OR SERVICES<br>(b)  | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|--|----------------------------|-------------|----------------------|---------------|-----------------------------|
|                 | GSA Contract #: GS-23F-0112L<br>DUNS Number: (b)(4)<br>The total estimated cost of this task order entitled "Global Methane Initiative Agriculture Subcommittee Support" is \$117,081 for 705 hours. Incremental funding Continued ... |                            |             |                      |               |                             |

|   |   |  |                           |                      |                 |              |                                    |
|---|---|--|---------------------------|----------------------|-----------------|--------------|------------------------------------|
| SEE BILLING<br>INSTRUCTIONS<br>ON REVERSE | 18. SHIPPING POINT  |  | 19. GROSS SHIPPING WEIGHT |                      | 20. INVOICE NO. |              | 17(h)<br>TOTAL<br>(Cont.<br>pages) |
|   | 21. MAIL INVOICE TO:<br>a. NAME<br>RTP Finance Center   |  |                           |                      |                 |              |                                    |
|   | b. STREET ADDRESS<br>(or P.O. Box)<br>US Environmental Protection Agency<br>RTP-Finance Center<br>Mail Drop D143-02<br>109 TW Alexander Drive |  |                           |                      |                 |              | 17(i)<br>GRAND<br>TOTAL            |
|   | c. CITY<br>Durham   |  | d. STATE<br>NC            | e. ZIP CODE<br>27711 |                 | \$117,081.00 |                                    |

22. UNITED STATES OF

AMERICA BY (Signature)

05/28/2014



ELECTRONIC  
SIGNATURE

23. NAME (Typed)

Margaret Kline

TITLE: CONTRACTING/ORDERING OFFICER

**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO  
2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|               |                  |               |
|---------------|------------------|---------------|
| DATE OF ORDER | CONTRACT NO.     | ORDER NO.     |
| 05/21/2014    | EP-BPA-12-H-0029 | EP-B14H-00144 |

| ITEM NO.<br>(a) | SUPPLIES/SERVICES<br>(b)   | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|--|----------------------------|-------------|----------------------|---------------|-----------------------------|
| 0001            | <p>of \$111,057.74 is obligated leaving \$6,023.26 needed to fully fund this task order through its completion date of 27 May 2015.</p> <p>COR: Allison Costa 202-343-9468<br/>Alt COR: Kurt Roos<br/>CO: Margaret Kline<br/>Admin Office:<br/>HPOD<br/>US Environmental Protection Agency<br/>Ariel Rios Building<br/>1200 Pennsylvania Avenue, N. W.<br/>Mail Code: 3803R<br/>Washington DC 20460</p> <p>Accounting Info:<br/>13-14-BR-58F0X15-101A46-2505-1458FC4706-001<br/>BFY: 13 EFY: 14 Fund: BR Budget Org:<br/>58F0X15 Program (PRC): 101A46 Budget (BOC):<br/>2505 DCN - Line ID: 1458FC4706-001<br/>Period of Performance: 05/28/2014 to 05/27/2015</p> <p>New Award TEC and funding</p> <p>The obligated amount of award: \$111,057.74.<br/>The total for this award is shown in box 17(i).</p> |                            |             |                      |               |                             |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00

Call Manager: Allison Costa

Call Title: Global Methane Initiative Agriculture Subcommittee Support

Call 13-197

## **STATEMENT OF WORK**

### **I. BACKGROUND**

The Global Methane Initiative (GMI) is an international partnership of approximately 40 countries that work together to promote methane emissions reductions around the world. It accomplishes this work through sector-based subcommittees focusing on agriculture, coal mines, municipal solid waste, municipal wastewater, and oil and gas systems. The Agriculture Subcommittee (Subcommittee) focuses on methane emissions reductions in the livestock and agro-industrial sectors through the use of anaerobic digestion. More information about the Subcommittee, including its mission statement, current members, and past activities, can be found at:

<http://www.globalmethane.org/agriculture/index.aspx>. The U.S. is one of the three current Subcommittee co-chairs, along with Argentina and India. Working closely with the delegates from these countries and the GMI Administrative Support Group, the U.S. co-chair leads the development of all Subcommittee activities.

### **II. OBJECTIVES**

The objective of this task order is to provide technical support for GMI's Agriculture Subcommittee activities. It will also support other general activities related to GMI's international agricultural activities, such as engagement with organizations such as the Climate and Clean Air Coalition's Agriculture Initiative

(<http://www.unep.org/ccac/Actions/AddressingSLCPsfromAgriculture/tabid/131526/Default.aspx>) or multilateral development bank (World Bank, Asian Development Bank, etc.) events in this sector.

### **III. SPECIFIC TASKS**

#### **Task 1: International Policies and Incentives**

At the GMI Agriculture Subcommittee meeting held in Singapore in July 2012, members of the Subcommittee and Project Network discussed ways to increase participation in the Subcommittee and provide added value to these participants. It was determined that Subcommittee-level projects/activities would accomplish these goals. Participants discussed a number of ideas, including a "Best Practices" guide that would describe different types of anaerobic digesters around the world, benefits of anaerobic digestion projects, policies that promote anaerobic digestion in different countries and financial incentives available for anaerobic digestion projects. Under a previous task order (B13H-00069), the guide *Successful Applications of Anaerobic Digestion from Across the World* was developed to describe the benefits of anaerobic digestion projects and present case studies of these facilities. (It is available at: <https://www.globalmethane.org/documents/GMI%20Benefits%20Report.pdf>). During that same task order, an annotated outline of topics was developed and research was conducted to identify policies and incentives that promote anaerobic digestion in a suite of countries, both GMI member and non-member countries. These countries were selected based on suggestions from Subcommittee participants during the September 2013 Agriculture Subcommittee webinar, the country's involvement in the Subcommittee and/or the prevalence of agricultural anaerobic digestion projects within the country. (The minutes of the webinar are available at:



<https://www.globalmethane.org/documents/GMI%20Ag%20Meeting%20Minutes.pdf>.) The outline and research are attached to this Statement of Work.

EPA will share this work with GMI Agriculture Subcommittee and Project Network members for their feedback in December 2013. Under this Task Order, the Contractor shall conduct a limited amount of additional research to address stakeholder comments (if needed) and develop the final report on policies and incentives used to promote anaerobic digestion projects around the world, which will include an additional opportunity for stakeholder feedback. The final report may be from 10-30 pages long, depending largely on formatting, and will contain, at a minimum, an executive summary of the report, summary information on various policies and incentives, highlights from specific countries, and graphics.

In addition, the Contractor shall develop a plan to promote this resource and implement the plan, upon approval. The plan may include identification of target audience groups, activities to publicize the existence of this guide (such as emails to specific groups or conference presentations by EPA or the Contractor), and the presentation of the information contained in the guide in alternative formats (such as an online searchable tool). It is very important that the information on policies and incentives is kept current so that the information remains useful. Therefore, the plan must include a strategy for updating and adding to the information on policies and incentives over time. For purposes of this task order, the Contractor may estimate the development of the plan, the development of an additional method of presentation of the information, ten "desk-based" outreach activities, one in-person outreach activity, and the maintenance of the information to ensure its relevancy.

#### **Deliverables**

| <i>Deliverable</i>                            | <i>Due Date</i>                                       |
|---|---|
| Address stakeholder comments & develop report | Within 1 month of receipt of comments                 |
| Finalize report                               | Within 2 weeks of comments from EPA COR& stakeholders |
| Develop outreach plan                         | Within 1 month of TO award                            |
| Implement targeted outreach                   | Ongoing, per plan, as approved by EPA COR             |
| Maintain information                          | Ongoing, per plan, as approved by EPA COR             |

#### **Task 2: Data Entry for International AD Database**

The Subcommittee established a database of international AD projects in member countries, which is available on the GMI website at: <http://www.globalmethane.org/activities/indexact.aspx?sector=agri>. The data is submitted throughout the year by Subcommittee members using the template available at: [http://www.globalmethane.org/tools-resources/ag\\_addressesources.aspx](http://www.globalmethane.org/tools-resources/ag_addressesources.aspx). The data is entered into the internal GMI database, CRM (a Salesforce application), which interfaces directly with the website to publish the "public" information.

Information in the database is submitted voluntarily and no new information was provided during FY13. In order to promote the database as a valuable resource, GMI needs to encourage the submission of new information and updating of the current information. Under this task order, the Contractor shall develop and implement an outreach plan to grow the database. This activity should include prioritization of Partner countries for targeted outreach and a survey of any online resources listing project data in other countries. The plan should encompass all Partner countries and the Contractor

shall provide active outreach to the highest-priority countries for information. The Contractor shall also input data received from Subcommittee members into the CRM.

For this task order the Contractor shall estimate that the plan will encompass all current Partner countries that are members of the Agriculture Subcommittee, targeted outreach will be conducted with three countries, and data from approximately 50 sites may be provided during the task order period of performance.

**Deliverables**

| <i>Deliverable</i>          | <i>Due Date</i>                           |
|-----------------------------|---|
| Develop outreach plan       | Within 1 month of TO award                |
| Implement targeted outreach | Ongoing, per plan, as approved by EPA COR |
| Input data                  | Within 1 week of receipt of data          |

**Task 3: General GMI Agriculture Support**

GMI is an authority on international agriculture methane emissions reductions from livestock and agro-industrial waste management practices, both within EPA and in the broader international community. As such, GMI frequently participates in meetings and responds to requests for information about the program, its practices, and its impact. Through this task order, the Contractor shall provide support for these meetings and requests by providing facts and statistics (available on the website or through queries of the GMI database) in the form of talking points, slides, presentations, or memos. Some of these requests may also involve limited research into "hot topics", such as the potential for methane emissions reductions from anaerobic digestion at palm oil mills in Indonesia. Sample audiences for the presentations could include Federal management staff, international methane and/or development executives, or multilateral bank staff.

The Contractor shall provide support for a limited number of "quick turnaround" requests from the EPA COR that require assistance within 24 hours. This generally consists of compiling information available on the GMI website or other program materials into graphs, tables, or concise written summaries in support of a specific request (e.g. methane emissions reductions from international GMI agriculture projects over the past ten years).

EPA anticipates that there may be 15 requests. For purposes of this task order, the Contractor may estimate that each request would consist of a half-page of talking points, 2 graphs, and a summary paragraph; or a presentation consisting of 7 slides. EPA anticipates that five of these may be quick turnaround requests.

**Deliverables**

| <i>Deliverable</i>                                | <i>Due Date</i>                                  |
|---|--|
| Provide talking points or similar information     | Ongoing; within 5 days of receipt from EPA COR   |
| Provide information for quick turnaround requests | Ongoing; within 24 hours of receipt from EPA COR |

**Task 4: Expert Support for International Agriculture Meetings**

The Subcommittee meets at least twice each year, with at least one in-person and one virtual meeting per year. (Virtual refers to webinar-based meetings.) For these meetings, Subcommittee input is requested on topics of interest and the US EPA is responsible for arranging for subject matter experts from around the world to present on these technical topic areas. During this period of performance,

approximately three meetings (two in-person and one virtual) are anticipated. An in-person meeting will be held in Florianopolis, Brazil on 12-13 March 2014 as a joint meeting of the Agriculture, Municipal Solid Waste, and Municipal Wastewater Subcommittees and another will be held as part of the GMI All-Partnership Meeting in the Fall (possibly October 2014) at a location yet to be determined, but likely to be in Serbia, Turkey, or Washington, DC. The Tri-Subcommittee meeting will consist of approximately 25% agriculture-specific topics and 25% cross-cutting topics. The All-Partnership meeting will likely consist of one day of agriculture-specific content and one half-day of cross-cutting content appropriate to the agriculture, municipal solid waste, and municipal wastewater sectors. It is anticipated that a 90-minute webinar would be held in June or July 2014. In addition, GMI's efforts to reduce methane emissions from the agriculture sector are widely recognized and GMI's expertise is often sought for presentations at other international meetings, such as conferences like AD Europe 2014 or workshops sponsored by the Asian Development Bank in Indonesia.

Under this task, the Contractor shall assist in the identification of topics of interest, identification of appropriate speakers, explanation to speakers of expected presentation content, development of presentations for EPA, and, when requested, coordination of travel logistics for selected speakers.

For purposes of this task order, the Contractor shall estimate that speaker identification/coordination may be needed for up to 20 speakers and travel coordination may be required for up to 10 experts from GMI member countries (such as the U.S., Argentina, India or Thailand) to either Europe, Latin America or Asia (such as Rome, Serbia, Brazil or Vietnam). In addition, the Contractor shall be prepared to develop a presentation for EPA staff (lasting approximately 20 minutes) on current Subcommittee activities for each Subcommittee meeting and suggest up to 15 topics for expert presentations at these meetings.

#### **Deliverables**

| <i>Deliverable</i>          | <i>Due Date</i>                                    |
|-----------------------------|--|
| Identify speakers or topics | Within 2 weeks of technical direction from EPA COR |
| Coordinate speaker content  | Ongoing after identification                       |
| Coordinate travel           | Within 2 weeks of technical direction from EPA COR |
| Draft presentation          | Within 3 weeks of technical direction from EPA COR |
| Finalize presentation       | Within 3 days of receipt of comments from EPA COR  |

#### **Task 5: Management**

This task shall provide for management and oversight of all activities being undertaken by this task order. EPA expects that the Contractor shall keep track of the status of all ongoing activities and deliver them on time, without reminder from the EPA COR. The Contractor shall also inform the EPA COR of any issues or problems encountered during the month or anticipated in the upcoming month(s). Finally, the Contractor shall provide a system, such as a web-based project site, to manage and provide version control of in-process deliverables, as well as maintain a calendar with timelines for each task, at a minimum.

|   |        |                   |               |   |  |                                |  |
|---|--------|-------------------|---------------|---|--|--------------------------------|--|
| <b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>   |        |                   |               | 1. CONTRACT ID CODE                       |  | PAGE OF PAGES                  |  |
|   |        |                   |               |   |  | 1 2                            |  |
| 2. AMENDMENT/MODIFICATION NO.   |        | 3. EFFECTIVE DATE |               | 4. REQUISITION/PURCHASE REQ. NO.          |  | 5. PROJECT NO. (If applicable) |  |
| 001   |        | 06/03/2014        |               | PR-OAR-14-01146                           |  |                                |  |
| 6. ISSUED BY  |        | CODE              |               | 7. ADMINISTERED BY (If other than Item 6) |  | CODE                           |  |
| HPOD  |        |                   |               |   |  |                                |  |
| US Environmental Protection Agency<br>Ariel Rios Building<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 3803R<br>Washington DC 20460 |        |                   |               |   |  |                                |  |
| 8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)   |        |                   |               | (x) 9A. AMENDMENT OF SOLICITATION NO.     |  |                                |  |
| TETRA TECH, INC.  |        |                   |               |   |  |                                |  |
| 3475 E. FOOTHILL BOULEVARD  |        |                   |               | 9B. DATED (SEE ITEM 11)                   |  |                                |  |
| PASADENA CA 911076024   |        |                   |               |   |  |                                |  |
|   |        |                   |               | x 10A. MODIFICATION OF CONTRACT/ORDER NO. |  |                                |  |
|   |        |                   |               | EP-BFA-12-H-0029                          |  |                                |  |
|   |        |                   |               | EP-B14H-00144                             |  |                                |  |
|   |        |                   |               | 10B. DATED (SEE ITEM 13)                  |  |                                |  |
|   |        |                   |               | 05/21/2014                                |  |                                |  |
| CODE  | (b)(4) |                   | FACILITY CODE |   |  |                                |  |

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended. ☐ is not extended.  
Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required) Net Increase: \$6,023.26  
See Schedule

**13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

|           |   |
|-----------|---|
| CHECK ONE | A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.  |
|           | B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b). |
|           | C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:  |
| X         | D. OTHER (Specify type of modification and authority)<br>mutual agreement   |

**E. IMPORTANT:** Contractor ☒ is not, ☐ is required to sign this document and return \_\_\_\_\_ 0 \_\_\_\_\_ copies to the issuing office.

**14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)**

GSA Contract #: GS-23F-0112L

DUNS Number: (b)(4)

Obligate \$6,023.26 in incremental funding to fully fund this task order through its completion date of 27 May 2015. The total estimated cost of this task order \$117,081 and all funding is Global Methane Initiative (GMI).

COR: Allison Costa 202-343-9468

Alt COR: Kurt Roos

CO: Margaret Kline

Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

|   |                  |  |                   |
|---|------------------|--|-------------------|
| 15A. NAME AND TITLE OF SIGNER (Type or print) |                  | 16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) |                   |
|   |                  | Margaret Kline   |                   |
| 15B. CONTRACTOR/OFFEROR                       | 15C. DATE SIGNED | 16C. DATE SIGNED   | 16B. SIGNATURE    |
| (Signature of person authorized to sign)      |                  | 06/03/2014   | Margaret S. Kline |

NAME OF OFFEROR OR CONTRACTOR  
TETRA TECH, INC.

| ITEM NO.<br>(A) | SUPPLIES/SERVICES<br>(B)   | QUANTITY<br>(C) | UNIT<br>(D) | UNIT PRICE<br>(E) | AMOUNT<br>(F) |
|-----------------|--|-----------------|-------------|-------------------|---------------|
|                 | Payment:<br>RTP Finance Center<br>US Environmental Protection Agency<br>RTP-Finance Center (D143-02)<br>109 TW Alexander Drive<br>Durham NC 27711<br>FOB: Destination<br>Period of Performance: 05/28/2014 to 05/27/2015 |                 |             |                   |               |

|   |  |  |  |  |  |
|---|--|--|--|--|--|
| <b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>   |  | 1. CONTRACT ID CODE  |  | PAGE OF PAGES<br>1 2   |  |
| 2. AMENDMENT/MODIFICATION NO.<br>002  |  | 3. EFFECTIVE DATE<br>06/04/2014  |  | 4. REQUISITION/PURCHASE REQ. NO.   |  |
| 5. PROJECT NO. (If applicable)  |  | 6. ISSUED BY CODE<br>HPOD  |  | 7. ADMINISTERED BY (If other than Item 6) CODE   |  |
| HPOD<br>US Environmental Protection Agency<br>Ariel Rios Building<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 3803R<br>Washington DC 20460 |  | 8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)<br>TETRA TECH, INC.<br>3475 E. FOOTHILL BOULEVARD<br>PASADENA CA 911076024 |  | 9A. AMENDMENT OF SOLICITATION NO.<br>9B. DATED (SEE ITEM 11)   |  |
| CODE (b)(4)   |  | FACILITY CODE  |  | 10A. MODIFICATION OF CONTRACT/ORDER NO.<br>EP-BFA-12-H-0029<br>EP-B14H-00144<br>10B. DATED (SEE ITEM 13)<br>05/21/2014 |  |

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

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**12. ACCOUNTING AND APPROPRIATION DATA (If required)**

See Schedule

**13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

|           |   |
|-----------|---|
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|           | B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b). |
|           | C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:  |
| X         | D. OTHER (Specify type of modification and authority)<br>mutual agreement   |

**E. IMPORTANT:** Contractor ☒ is not, ☐ is required to sign this document and return \_\_\_\_\_ 0 \_\_\_\_\_ copies to the issuing office.

**14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)**

GSA Contract #: GS-23F-0112L

DUNS Number: (b)(4)

Provide fiscal data for the obligated \$6,023.26 GMI funds:

BFY: 13 EFY: 14 Fund: BR Budget Org: 58FOX13

Program (PRC): 101A46 Budget (BOC): 2505 DCN

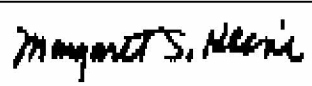
Line ID: 1458FC4732-001: \$6,023.26.

Completion date is 27 May 2015.

COR: Allison Costa 202-343-9468

Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

|   |                  |   |                                |
|---|------------------|---|--------------------------------|
| 15A. NAME AND TITLE OF SIGNER (Type or print)                           |                  | 16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)<br>Margaret Kline                                      |                                |
| 15B. CONTRACTOR/OFFEROR<br><br>(Signature of person authorized to sign) | 15C. DATE SIGNED | 16B. ELECTRONIC SIGNATURE<br> | 16C. DATE SIGNED<br>06/04/2014 |

## CONTINUATION SHEET

REFERENCE NO. OF DOCUMENT BEING CONTINUED

EP-BPA-12-H-0029/EP-B14H-00144/002

PAGE

OF

2

2

NAME OF OFFEROR OR CONTRACTOR

TETRA TECH, INC.

| ITEM NO.<br>(A) | SUPPLIES/SERVICES<br>(B)  | QUANTITY<br>(C) | UNIT<br>(D) | UNIT PRICE<br>(E) | AMOUNT<br>(F) |
|-----------------|---|-----------------|-------------|-------------------|---------------|
|                 | Alt COR: Kurt Roos<br>CO: Margaret Kline<br>Payment:<br>RTP Finance Center<br>US Environmental Protection Agency<br>RTP-Finance Center<br>Mail Drop D143-02<br>109 TW Alexander Drive<br>Durham NC 27711<br>Period of Performance: 05/28/2014 to 05/27/2015 |                 |             |                   |               |



## ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1

8

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|   |  |   |                          |   |                |
|---|--|---|--------------------------|---|----------------|
| 1. DATE OF ORDER<br>04/10/2015  |  | 2. CONTRACT NO. (If any)<br>EP-BPA-12-H-0029    |                          | 6. SHIP TO:<br>a. NAME OF CONSIGNEE<br>US Environmental Protection Agency   |                |
| 3. ORDER NO.<br>EP-B15H-00077   |  | 4. REQUISITION/REFERENCE NO.<br>PR-OAR-14-01829 |                          | b. STREET ADDRESS<br>U.S. EPA/OAR/OAP/CCD<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 62104J<br>OAP/CCD  |                |
| 5. ISSUING OFFICE (Address correspondence to)<br>HPOD<br>US Environmental Protection Agency<br>Ariel Rios Building<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 3803R<br>Washington DC 20460  |  |   |                          | c. CITY<br>Washington   | d. STATE<br>DC |
| 7. TO:<br>a. NAME OF CONTRACTOR<br>TETRA TECH, INC.   |  |   |                          | e. ZIP CODE<br>20460  |                |
| b. COMPANY NAME   |  |   |                          | f. SHIP VIA   |                |
| c. STREET ADDRESS<br>3475 E. FOOTHILL BOULEVARD   |  |   |                          | 8. TYPE OF ORDER<br><input type="checkbox"/> a. PURCHASE<br>REFERENCE YOUR:<br><br><input checked="" type="checkbox"/> b. DELIVERY<br>Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract. |                |
| d. CITY<br>PASADENA   |  | e. STATE<br>CA                                  | f. ZIP CODE<br>911076024 | Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.  |                |
| 9. ACCOUNTING AND APPROPRIATION DATA<br>See Schedule  |  |   |                          | 10. REQUISITIONING OFFICE<br>OARM   |                |
| 11. BUSINESS CLASSIFICATION (Check appropriate box(es))<br><input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone<br><input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOSB PROGRAM <input type="checkbox"/> h. EDWOSB |  |   |                          | 12. F.O.B. POINT<br>Destination   |                |
| 13. PLACE OF<br>a. INSPECTION<br>Destination  |  | b. ACCEPTANCE<br>Destination                    |                          | 14. GOVERNMENT B/L NO.  |                |
|   |  |   |                          | 15. DELIVER TO F.O.B. POINT<br>ON OR BEFORE (Date)  |                |
|   |  |   |                          | 16. DISCOUNT TERMS  |                |

## 17. SCHEDULE (See reverse for Rejections)

| ITEM NO.<br>(a) | SUPPLIES OR SERVICES<br>(b)   | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|---|----------------------------|-------------|----------------------|---------------|-----------------------------|
|                 | GSA Contract #: GS-23F-0112L<br>DUNS Number: (b)(4)<br>Call Order Title: Global Methane Initiative;s (GMI) Municipal Wastewater 2014: Technical Support and Training<br><br>Continued ... |                            |             |                      |               |                             |

|   |   |  |   |                      |                 |  |                                    |
|---|---|--|---|----------------------|-----------------|--|------------------------------------|
| SEE BILLING<br>INSTRUCTIONS<br>ON REVERSE | 18. SHIPPING POINT                                    |  | 19. GROSS SHIPPING WEIGHT   |                      | 20. INVOICE NO. |  | 17(h)<br>TOTAL<br>(Cont.<br>pages) |
|   | 21. MAIL INVOICE TO:<br>a. NAME<br>RTP Finance Center |  |   |                      |                 |  |                                    |
|   | b. STREET ADDRESS<br>(or P.O. Box)                    |  | US Environmental Protection Agency<br>RTP-Finance Center (AA216-01)<br>109 TW Alexander Drive<br>www2.epa.gov/financial/contracts |                      |                 |  | 17(i)<br>GRAND<br>TOTAL            |
|   | c. CITY<br>Durham                                     |  | d. STATE<br>NC  | e. ZIP CODE<br>27711 |                 |  |                                    |

22. UNITED STATES OF  
AMERICA BY (Signature)23. NAME (Typed)  
Rayna Brown  
TITLE: CONTRACTING/ORDERING OFFICER



**ORDER FOR SUPPLIES OR SERVICES**  
**SCHEDULE - CONTINUATION**

PAGE NO

2

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|               |                  |               |
|---------------|------------------|---------------|
| DATE OF ORDER | CONTRACT NO.     | ORDER NO.     |
| 04/10/2015    | EP-BPA-12-H-0029 | EP-B15H-00077 |

| ITEM NO.<br>(a) | SUPPLIES/SERVICES<br>(b)   | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|--|----------------------------|-------------|----------------------|---------------|-----------------------------|
|                 | <p>This call order hereby incorporates the GSA contract no. GS-23F-0112L and Blanket Purchase Agreement (BPA) no. EP-BPA-12-H-0029 terms and condition by reference.</p> <p>The BPA Vendor shall perform in accordance with the attached Statement of Work (5 pages) and the accepted technical proposal dated August 28, 2014, which the Vendor honored on April 6, 2015, and cost proposal dated April 9, 2015 in the amount of \$194,538.66 (pre-priced based on the award of tasks 1, 3, 4, and 6).</p> <p>This is a Time-and-Material (T&amp;M) call order with a pre-priced total ceiling price of \$194,538.66, which the Vendor is not authorized to exceed. The Vendor exceeds at its own risk.</p> <p>The total obligated/funded ceiling amount for this order is \$194,538.66. This order is hereby fully funded.</p> <p>Administrative Contracting Officer (CO):<br/>Faye Sas<br/>(202) 564-2669<br/>sas.faye@epa.gov</p> <p>Contracting Officer's Representative (COR):<br/>Chris Love<br/>(202) 343-9795<br/>love.chris@epa.gov</p> <p>Henry Ferland<br/>(202) 343-9330<br/>ferland.henry@epa.gov</p> <p>Any travel under this order shall be approved in advance by the Contracting Officer's Representative (COR) or the Contracting Officer. All travel (domestic and international) shall comply with the Federal Travel Regulations (FTR).</p> <p>Continued ...</p> |                            |             |                      |               |                             |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00

# ORDER FOR SUPPLIES OR SERVICES

## SCHEDULE - CONTINUATION

PAGE NO  
3

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

|                             |                                  |                            |
|-----------------------------|----------------------------------|----------------------------|
| DATE OF ORDER<br>04/10/2015 | CONTRACT NO.<br>EP-BPA-12-H-0029 | ORDER NO.<br>EP-B15H-00077 |
|-----------------------------|----------------------------------|----------------------------|

| ITEM NO.<br>(a) | SUPPLIES/SERVICES<br>(b)  | QUANTITY<br>ORDERED<br>(c) | UNIT<br>(d) | UNIT<br>PRICE<br>(e) | AMOUNT<br>(f) | QUANTITY<br>ACCEPTED<br>(g) |
|-----------------|---|----------------------------|-------------|----------------------|---------------|-----------------------------|
| 0001            | <p>This call order is for severable services.</p> <p>The BPA Vendor hereby acknowledges and accepts this order by signing and dating below:</p> <p>_____</p> <p>Print Name and Title</p> <p>_____</p> <p>Signature</p> <p>_____</p> <p>Date</p> <p>Admin Office:</p> <p>      HPOD</p> <p>      US Environmental Protection Agency</p> <p>      Ariel Rios Building</p> <p>      1200 Pennsylvania Avenue, N. W.</p> <p>      Mail Code: 3803R</p> <p>      Washington DC 20460</p> <p>Accounting Info:</p> <p>14-15-B-58F4-101A46XP4-2505-1458FC4858-001</p> <p>BFY: 14 EFY: 15 Fund: B Budget Org: 58F4</p> <p>Program (PRC): 101A46XP4 Budget (BOC): 2505</p> <p>DCN - Line ID: 1458FC4858-001</p> <p>Period of Performance: 04/10/2015 to 02/08/2016</p> <p>Pre-Priced Services (Labor and Other Direct Costs (ODC))</p> <p>Time-and-Materials (T&amp;M)</p> <p>Estimated Labor: \$146,701.36</p> <p>Estimated ODCs: \$47,837.30</p> <p>The obligated amount of award: \$194,538.66.</p> <p>The total for this award is shown in box 17(i).</p> |                            |             |                      |               |                             |

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$0.00

|  |  |                                    |  |  |  |
|--|--|------------------------------------|--|--|--|
| <b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>  |  | 1. CONTRACT ID CODE                |  | PAGE OF PAGES<br>1 2   |  |
| 2. AMENDMENT/MODIFICATION NO.<br>002   |  | 3. EFFECTIVE DATE<br>See Block 16C |  | 4. REQUISITION/PURCHASE REQ. NO.   |  |
| 5. PROJECT NO. (If applicable)   |  | 6. ISSUED BY CODE<br>HPOD          |  | 7. ADMINISTERED BY (If other than Item 6) CODE                               |  |
| HPOD<br>US Environmental Protection Agency<br>Ariel Rios Building<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 3803R<br>Washington DC 20460            |  |                                    |  |  |  |
| 8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)<br><br>TETRA TECH, INC.<br>3475 E. FOOTHILL BOULEVARD<br>PASADENA CA 911076024 |  | (x)                                |  | 9A. AMENDMENT OF SOLICITATION NO.  |  |
|  |  |                                    |  | 9B. DATED (SEE ITEM 11)  |  |
|  |  | x                                  |  | 10A. MODIFICATION OF CONTRACT/ORDER NO.<br>EP-BFA-12-H-0029<br>EP-B15H-00077 |  |
|  |  |                                    |  | 10B. DATED (SEE ITEM 13)<br>04/10/2015                                       |  |
| CODE (b)(4)  |  | FACILITY CODE                      |  |  |  |

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

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12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

**13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

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| X         | C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:<br>Mutual Agreement of the Parties   |
|           | D. OTHER (Specify type of modification and authority)   |

**E. IMPORTANT:** Contractor ☐ is not. ☒ is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

GSA Contract #: GS-23F-0112L

DUNS Number: (b)(4)

Call Order Title: Global Methane Initiatives (GMI) Municipal Wastewater 2014: Technical Support and Training

The purpose of this modification is to re-assign the role of COR to Henry Ferland and the role of Alt COR to Thomas Frankiewicz for the duration of this call order. In addition, the period of performance of this call order is extended thru 29 July 2016, at no cost to the government. All other terms and conditions remain unchanged.

COR: Henry Ferland

Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect.

|   |                  |   |                                |
|---|------------------|---|--------------------------------|
| 15A. NAME AND TITLE OF SIGNER (Type or print)                           |                  | 16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)<br>Faye Sas                          |                                |
| 15B. CONTRACTOR/OFFEROR<br><br>(Signature of person authorized to sign) | 15C. DATE SIGNED | 16B. UNITED STATES OF AMERICA<br><br>ELECTRONIC SIGNATURE<br>(Signature of Contracting Officer) | 16C. DATE SIGNED<br>01/13/2016 |

## CONTINUATION SHEET

REFERENCE NO. OF DOCUMENT BEING CONTINUED  
EP-BPA-12-H-0029/EP-B15H-00077/002PAGE OF  
2 2NAME OF OFFEROR OR CONTRACTOR  
TETRA TECH, INC.

| ITEM NO.<br>(A) | SUPPLIES/SERVICES<br>(B)   | QUANTITY<br>(C) | UNIT<br>(D) | UNIT PRICE<br>(E) | AMOUNT<br>(F) |
|-----------------|--|-----------------|-------------|-------------------|---------------|
|                 | <p>ferland.henry@epa.gov<br/>202.343.9330</p> <p>ALT COR: Thomas Frankiewicz<br/>frankiewicz.thomas@epa.gov<br/>202.343.9232</p> <p>LIST OF CHANGES:</p> <p>Reason for Modification : Supplemental Agreement<br/>for work within scope</p> <p>Period Of Performance End Date changed from<br/>08-FEB-16 to 29-JUL-16</p> <p>Total Amount for this Modification: \$0.00<br/>New Total Amount for this Version: \$0.00<br/>New Total Amount for this Award: \$194,538.66</p> <p>Contracting Officer Representative changed<br/>from Chris Godlove to Henry Ferland.</p> <p>Alternate COR/Project Officer changed to :<br/>Thomas Frankiewicz</p> <p>Payment:</p> <p>RTP Finance Center<br/>US Environmental Protection Agency<br/>RTP-Finance Center (AA216-01)<br/>109 TW Alexander Drive<br/>www2.epa.gov/financial/contracts<br/>Durham NC 27711</p> <p>Period of Performance: 04/10/2015 to 07/29/2016</p> |                 |             |                   |               |

|  |  |                                    |  |  |  |
|--|--|------------------------------------|--|--|--|
| <b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>  |  | 1. CONTRACT ID CODE                |  | PAGE OF PAGES<br>1 2   |  |
| 2. AMENDMENT/MODIFICATION NO.<br>002   |  | 3. EFFECTIVE DATE<br>See Block 16C |  | 4. REQUISITION/PURCHASE REQ. NO.   |  |
| 5. PROJECT NO. (If applicable)   |  | 6. ISSUED BY CODE<br>HPOD          |  | 7. ADMINISTERED BY (If other than Item 6) CODE                               |  |
| HPOD<br>US Environmental Protection Agency<br>Ariel Rios Building<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 3803R<br>Washington DC 20460        |  |                                    |  |  |  |
| 8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)<br>TETRA TECH, INC.<br>3475 E. FOOTHILL BOULEVARD<br>PASADENA CA 911076024 |  | (x)                                |  | 9A. AMENDMENT OF SOLICITATION NO.  |  |
|  |  |                                    |  | 9B. DATED (SEE ITEM 11)  |  |
|  |  | x                                  |  | 10A. MODIFICATION OF CONTRACT/ORDER NO.<br>EP-BFA-12-H-0029<br>EP-B15H-00077 |  |
|  |  |                                    |  | 10B. DATED (SEE ITEM 13)<br>04/10/2015                                       |  |
| CODE (b)(4)  |  | FACILITY CODE                      |  |  |  |

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended. ☐ is not extended.  
Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

**13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

|           |   |
|-----------|---|
| CHECK ONE | A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.  |
|           | B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b). |
| X         | C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:<br>Mutual Agreement of the Parties   |
|           | D. OTHER (Specify type of modification and authority)   |

**E. IMPORTANT:** Contractor ☐ is not. ☒ is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

GSA Contract #: GS-23F-0112L

DUNS Number: (b)(4)

Call Order Title: Global Methane Initiatives (GMI) Municipal Wastewater 2014: Technical Support and Training

The purpose of this modification is to re-assign the role of COR to Henry Ferland and the role of Alt COR to Thomas Frankiewicz for the duration of this call order. In addition, the period of performance of this call order is extended thru 29 July 2016, at no cost to the government. All other terms and conditions remain unchanged.

COR: Henry Ferland

Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect.

|   |                  |   |                                |
|---|------------------|---|--------------------------------|
| 15A. NAME AND TITLE OF SIGNER (Type or print)                           |                  | 16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)<br>Faye Sas                          |                                |
| 15B. CONTRACTOR/OFFEROR<br><br>(Signature of person authorized to sign) | 15C. DATE SIGNED | 16B. UNITED STATES OF AMERICA<br><br>ELECTRONIC SIGNATURE<br>(Signature of Contracting Officer) | 16C. DATE SIGNED<br>01/13/2016 |

## CONTINUATION SHEET

REFERENCE NO. OF DOCUMENT BEING CONTINUED  
EP-BPA-12-H-0029/EP-B15H-00077/002PAGE OF  
2 2NAME OF OFFEROR OR CONTRACTOR  
TETRA TECH, INC.

| ITEM NO.<br>(A) | SUPPLIES/SERVICES<br>(B)  | QUANTITY<br>(C) | UNIT<br>(D) | UNIT PRICE<br>(E) | AMOUNT<br>(F) |
|-----------------|---|-----------------|-------------|-------------------|---------------|
|                 | <p>ferland.henry@epa.gov<br/>202.343.9330</p> <p>ALT COR: Thomas Frankiewicz<br/>frankiewicz.thomas@epa.gov<br/>202.343.9232</p> <p>LIST OF CHANGES:<br/>Reason for Modification : Supplemental Agreement<br/>for work within scope<br/>Period Of Performance End Date changed from<br/>08-FEB-16 to 29-JUL-16<br/>Total Amount for this Modification: \$0.00<br/>New Total Amount for this Version: \$0.00<br/>New Total Amount for this Award: \$194,538.66<br/>Contracting Officer Representative changed<br/>from Chris Godlove to Henry Ferland.</p> <p>Alternate COR/Project Officer changed to :<br/>Thomas Frankiewicz</p> <p>Payment:<br/>RTP Finance Center<br/>US Environmental Protection Agency<br/>RTP-Finance Center (AA216-01)<br/>109 TW Alexander Drive<br/>www2.epa.gov/financial/contracts<br/>Durham NC 27711</p> <p>Period of Performance: 04/10/2015 to 07/29/2016</p> |                 |             |                   |               |

|   |  |                   |  |   |  |                                |  |
|---|--|-------------------|--|---|--|--------------------------------|--|
| <b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>   |  |                   |  | 1. CONTRACT ID CODE                       |  | PAGE OF PAGES                  |  |
|   |  |                   |  |   |  | 1 3                            |  |
| 2. AMENDMENT/MODIFICATION NO.   |  | 3. EFFECTIVE DATE |  | 4. REQUISITION/PURCHASE REQ. NO.          |  | 5. PROJECT NO. (If applicable) |  |
| 003   |  | 04/28/2016        |  | PR-OAR-15-01838                           |  |                                |  |
| 6. ISSUED BY  |  | CODE              |  | 7. ADMINISTERED BY (If other than Item 6) |  | CODE                           |  |
| HPOD  |  |                   |  |   |  |                                |  |
| US Environmental Protection Agency<br>Ariel Rios Building<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 3803R<br>Washington DC 20460 |  |                   |  |   |  |                                |  |
| 8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)   |  |                   |  | (x) 9A. AMENDMENT OF SOLICITATION NO.     |  |                                |  |
| TETRA TECH, INC.  |  |                   |  |   |  |                                |  |
| 3475 E. FOOTHILL BOULEVARD  |  |                   |  | 9B. DATED (SEE ITEM 11)                   |  |                                |  |
| PASADENA CA 911076024   |  |                   |  |   |  |                                |  |
|   |  |                   |  | x 10A. MODIFICATION OF CONTRACT/ORDER NO. |  |                                |  |
|   |  |                   |  | EP-BFA-12-H-0029                          |  |                                |  |
|   |  |                   |  | EP-B15H-00077                             |  |                                |  |
|   |  |                   |  | 10B. DATED (SEE ITEM 13)                  |  |                                |  |
|   |  |                   |  | 04/10/2015                                |  |                                |  |
| CODE  |  | (b)(4)            |  | FACILITY CODE                             |  |                                |  |

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended. ☐ is not extended.  
Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

**13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

|           |   |
|-----------|---|
| CHECK ONE | A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.  |
| X         | B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b). |
|           | C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:  |
|           | D. OTHER (Specify type of modification and authority)   |

**E. IMPORTANT:** Contractor ☒ is not. ☐ is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

GSA Contract #: GS-23F-0112L

DUNS Number: (b)(4)

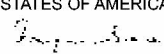
Call Order Title: Global Methane Initiatives (GMI) Municipal Wastewater 2014: Technical Support and Training

The purpose of this administrative modification is to change the line of accounting for an obligation in the amount of \$11,882.00, from DCN 1558FC5542 to DCN 1558FC5787. The total dollar threshold for this call order remains the same at \$194,538.66. All other terms and conditions remain unchanged.

COR: Henry Ferland

Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect.

|   |                  |  |                  |
|---|------------------|--|------------------|
| 15A. NAME AND TITLE OF SIGNER (Type or print) |                  | 16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)   |                  |
|   |                  | Faye Sas   |                  |
| 15B. CONTRACTOR/OFFEROR                       | 15C. DATE SIGNED | 16B. UNITED STATES OF AMERICA  | 16C. DATE SIGNED |
| (Signature of person authorized to sign)      |                  | <br>(Signature of Contracting Officer) | 04/28/2016       |



|                           |   |      |    |
|---------------------------|---|------|----|
| <b>CONTINUATION SHEET</b> | REFERENCE NO. OF DOCUMENT BEING CONTINUED | PAGE | OF |
|                           | EP-BPA-12-H-0029/EP-B15H-00077/003        | 2    | 3  |

NAME OF OFFEROR OR CONTRACTOR  
TETRA TECH, INC.

| ITEM NO.<br>(A) | SUPPLIES/SERVICES<br>(B)   | QUANTITY<br>(C) | UNIT<br>(D) | UNIT PRICE<br>(E) | AMOUNT<br>(F) |
|-----------------|--|-----------------|-------------|-------------------|---------------|
|                 | <p>ferland.henry@epa.gov<br/>202.343.9330</p> <p>ALT COR: Thomas Frankiewicz<br/>frankiewicz.thomas@epa.gov<br/>202.343.9232</p> <p>LIST OF CHANGES:<br/>Reason for Modification : Funding Only Action<br/>Total Amount for this Modification: \$0.00<br/>New Total Amount for this Version: \$194,538.66<br/>New Total Amount for this Award: \$194,538.66</p> <p>CHANGES FOR LINE ITEM NUMBER: 1</p> <p>CHANGES FOR ACCOUNTING CODE:<br/>15-16-BR-58FOX13-101A46-2505-1558FC5542-001<br/>Amount changed from \$11,882.00 to \$0.00</p> <p>NEW ACCOUNTING CODE ADDED:<br/>Account code:<br/>15-16-B-58F4-101A46-2505-1558FC5787-001<br/>Beginning FiscalYear 15<br/>Ending Fiscal Year 16<br/>Fund (Appropriation) B<br/>Budget Organization 58F4<br/>Program (PRC) 101A46<br/>Budget (BOC) 2505<br/>Job # (Site/Project)<br/>Cost Organization<br/>DCN-LineID 1558FC5787-001<br/>Quantity: 0<br/>Amount: \$11,882.00<br/>Percent: 0<br/>Subject To Funding: N<br/>Payment Address:<br/>RTP Finance Center<br/>US Environmental Protection Agency<br/>RTP-Finance Center (AA216-01)<br/>109 TW Alexander Drive<br/>www2.epa.gov/financial/contracts<br/>Durham NC 27711</p> <p>Delivery Location Code: OAR/OAP/CAMD<br/>OAR/OAP/CAMD<br/>US Environmental Protection Agency<br/>1200 Pennsylvania Avenue NW<br/>Mail Code: 62104J<br/>Continued ...</p> |                 |             |                   |               |



NAME OF OFFEROR OR CONTRACTOR  
TETRA TECH, INC.

| ITEM NO.<br>(A) | SUPPLIES/SERVICES<br>(B)   | QUANTITY<br>(C) | UNIT<br>(D) | UNIT PRICE<br>(E) | AMOUNT<br>(F) |
|-----------------|--|-----------------|-------------|-------------------|---------------|
|                 | OAF/CAMD<br>Washington DC 20460 USA<br><br>Payment:<br>RTP Finance Center<br>US Environmental Protection Agency<br>RTP-Finance Center (AA216-01)<br>109 TW Alexander Drive<br>www2.epa.gov/financial/contracts<br>Durham NC 27711<br>FOB: Destination<br>Period of Performance: 04/10/2015 to 07/29/2016 |                 |             |                   |               |

|   |  |  |  |  |  |  |  |                |                  |  |
|---|--|--|--|--|--|--|--|----------------|------------------|--|
| <b>SOLICITATION/CONTRACT/ORDER FOR COMMERCIAL ITEMS</b><br><i>OFFEROR TO COMPLETE BLOCKS 12, 17, 23, 24, &amp; 30</i>   |  |  |  | 1. REQUISITION NUMBER<br>PR-OAR-15-01838 |  | PAGE OF<br>1 10  |  |                |                  |  |
| 2. CONTRACT NO.<br>EP-BPA-12-H-0029   |  |  | 3. AWARD/<br>EFFECTIVE DATE  |  | 4. ORDER NUMBER<br>EP-B16H-00084   |  | 5. SOLICITATION NUMBER                                 |                |                  |  |
| 6. SOLICITATION<br>ISSUE DATE   |  |  | 7. <b>FOR SOLICITATION<br/>INFORMATION CALL:</b>   |  | a. NAME<br>Rayna Brown   |  | b. TELEPHONE NUMBER (No collect calls)<br>202-564-6025 |                |                  |  |
| 8. OFFER DUE DATE/LOCAL TIME  |  |  | 9. ISSUED BY<br>CODE HPOD  |  | 10. THIS ACQUISITION IS <input checked="" type="checkbox"/> UNRESTRICTED OR <input type="checkbox"/> SET ASIDE: % FOR:   |  |  |                |                  |  |
| HPOD<br>US Environmental Protection Agency<br>Ariel Rios Building<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 3803R<br>Washington DC 20460   |  |  | <input type="checkbox"/> SMALL BUSINESS<br><input type="checkbox"/> HUBZONE SMALL BUSINESS<br><input type="checkbox"/> SERVICE-DISABLED VETERAN-OWNED SMALL BUSINESS       |  | <input type="checkbox"/> WOMEN-OWNED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOMEN-OWNED SMALL BUSINESS PROGRAM<br><input type="checkbox"/> EDWOSB<br><input type="checkbox"/> 8(A) |  | NAICS: 541330<br><br>SIZE STANDARD: \$14.0             |                |                  |  |
| 11. DELIVERY FOR FOB DESTINATION UNLESS BLOCK IS MARKED<br><input type="checkbox"/> SEE SCHEDULE  |  |  | 12. DISCOUNT TERMS   |  |  | 13a. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)  |  | 13b. RATING    |                  |  |
| 15. DELIVER TO<br>CODE OAR/OAP/CCD  |  |  | 16. ADMINISTERED BY<br>CODE HPOD   |  |  | 14. METHOD OF SOLICITATION<br><input type="checkbox"/> RFQ <input type="checkbox"/> IFB <input type="checkbox"/> RFP   |  |                |                  |  |
| OAR/OAP/CCD<br>US Environmental Protection Agency<br>1200 Pennsylvania Avenue NW<br>Mail Code: 62107J<br>OAP/CCD<br>Washington DC 20460   |  |  | HPOD<br>US Environmental Protection Agency<br>Ariel Rios Building<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 3803R<br>Washington DC 20460                            |  |  |  |  |                |                  |  |
| 17a. CONTRACTOR/<br>OFFEROR<br>CODE (b)(4)  |  |  | FACILITY<br>CODE   |  |  | 18a. PAYMENT WILL BE MADE BY<br>CODE RTP FMC   |  |                |                  |  |
| TETRA TECH, INC.<br>3475 E. FOOTHILL BOULEVARD<br>PASADENA CA 911076024   |  |  | RTP Finance Center<br>US Environmental Protection Agency<br>RTP-Finance Center (AA216-01)<br>109 TW Alexander Drive<br>www2.epa.gov/financial/contracts<br>Durham NC 27711 |  |  |  |  |                |                  |  |
| TELEPHONE NO.   |  |  | 17b. CHECK IF REMITTANCE IS DIFFERENT AND PUT SUCH ADDRESS IN OFFER  |  |  | 18b. SUBMIT INVOICES TO ADDRESS SHOWN IN BLOCK 18a UNLESS BLOCK BELOW IS CHECKED <input type="checkbox"/> SEE ADDENDUM   |  |                |                  |  |
| 19. ITEM NO.  |  | 20. SCHEDULE OF SUPPLIES/SERVICES  |  |  |  | 21. QUANTITY   |  | 22. UNIT       |                  |  |
|   |  | GSA Contract #: GS-23F-0112L<br>DUNS Number: (b)(4)<br>This BPA call hereby incorporates the terms and conditions from GSA Federal Supply Schedule Contract Number GS-23F-0112L and EPA BPA number EP-BPA-12-H-0029 by reference.<br><br>The vendor shall perform in accordance with Attachment A Statement of work (8 pages) and the accepted quotation dated August 7, 2015 in the amount of \$157,171.12.<br><br>(Use Reverse and/or Attach Additional Sheets as Necessary) |  |  |  |  |  |                |                  |  |
|   |  |  |  |  |  |  |  | 23. UNIT PRICE |                  |  |
|   |  |  |  |  |  |  |  | 24. AMOUNT     |                  |  |
|   |  |  |  |  |  |  |  |                |                  |  |
| 25. ACCOUNTING AND APPROPRIATION DATA<br>See Schedule   |  |  |  |  |  | 26. TOTAL AWARD AMOUNT (For Govt. Use Only)<br>\$157,171.12  |  |                |                  |  |
| <input type="checkbox"/> 27a. SOLICITATION INCORPORATES BY REFERENCE FAR 52.212-1, 52.212-4, FAR 52.212-3 AND 52.212-5 ARE ATTACHED. ADDENDA<br><input type="checkbox"/> 27b. CONTRACT/PURCHASE ORDER INCORPORATES BY REFERENCE FAR 52.212-4. FAR 52.212-5 IS ATTACHED. ADDENDA       |  |  |  |  |  | <input type="checkbox"/> ARE <input type="checkbox"/> ARE NOT ATTACHED.<br><input type="checkbox"/> ARE <input type="checkbox"/> ARE NOT ATTACHED.   |  |                |                  |  |
| <input type="checkbox"/> 28. CONTRACTOR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN COPIES TO ISSUING OFFICE. CONTRACTOR AGREES TO FURNISH AND DELIVER ALL ITEMS SET FORTH OR OTHERWISE IDENTIFIED ABOVE AND ON ANY ADDITIONAL SHEETS SUBJECT TO THE TERMS AND CONDITIONS SPECIFIED. |  |  |  |  |  | <input type="checkbox"/> 29. AWARD OF CONTRACT: _____ OFFER DATED _____. YOUR OFFER ON SOLICITATION (BLOCK 5), INCLUDING ANY ADDITIONS OR CHANGES WHICH ARE SET FORTH HEREIN, IS ACCEPTED AS TO ITEMS: |  |                |                  |  |
| 30a. SIGNATURE OF OFFEROR/CONTRACTOR  |  |  |  |  |  | 31a. UNITED STATES OF AMERICA (SIGNATURE OF CONTRACTING OFFICER)   |  |                |                  |  |
|   |  |  |  |  |  | <br>ELECTRONIC SIGNATURE   |  |                |                  |  |
| 30b. NAME AND TITLE OF SIGNER (Type or print)   |  |  | 30c. DATE SIGNED   |  |  | 31b. NAME OF CONTRACTING OFFICER (Type or print)   |  |                | 31c. DATE SIGNED |  |
|   |  |  |  |  |  | Robert A. Gray   |  |                | 04/04/2016       |  |

| 19.<br>ITEM NO. | 20.<br>SCHEDULE OF SUPPLIES/SERVICES  | 21.<br>QUANTITY | 22.<br>UNIT | 23.<br>UNIT PRICE | 24.<br>AMOUNT |
|-----------------|---|-----------------|-------------|-------------------|---------------|
| 0001            | <p>This is a time and materials call order with a total not to exceed amount of \$157,171.12. The vendor is not authorized to exceed this amount. This task order is fully funded.</p> <p>''IGF::CT::IGF''</p> <p>Delivery: 10/15/2015</p> <p>Period of Performance: 07/16/2012 to 07/15/2017</p> <p>Award for Call 15-00754 "Communications Support for the AgSTAR Program" under contract EP-12-H-0029 to Tetra Tech</p> <p>Accounting Info:<br/>15-16-B-58F4-101A46-2505-1558FC5787-001 BFY: 15<br/>EFY: 16 Fund: B Budget Org: 58F4 Program (PRC):<br/>101A46 Budget (BOC): 2505 DCN - Line ID:<br/>1558FC5787-001<br/>Funding Flag: Partial<br/>Funded: \$157,171.12</p> |                 |             |                   |               |

32a. QUANTITY IN COLUMN 21 HAS BEEN

☐ RECEIVED    ☐ INSPECTED    ☐ ACCEPTED, AND CONFORMS TO THE CONTRACT, EXCEPT AS NOTED: \_\_\_\_\_

|   |                        |                                    |   |                       |
|---|------------------------|------------------------------------|---|-----------------------|
| 32b. SIGNATURE OF AUTHORIZED GOVERNMENT REPRESENTATIVE          |                        | 32c. DATE                          | 32d. PRINTED NAME AND TITLE OF AUTHORIZED GOVERNMENT REPRESENTATIVE                               |                       |
| 32e. MAILING ADDRESS OF AUTHORIZED GOVERNMENT REPRESENTATIVE    |                        |                                    | 32f. TELEPHONE NUMBER OF AUTHORIZED GOVERNMENT REPRESENTATIVE                                     |                       |
|   |                        |                                    | 32g. E-MAIL OF AUTHORIZED GOVERNMENT REPRESENTATIVE   |                       |
| 33. SHIP NUMBER   | 34. VOUCHER NUMBER     | 35. AMOUNT VERIFIED<br>CORRECT FOR | 36. PAYMENT   | 37. CHECK NUMBER      |
| <input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL |                        |                                    | <input type="checkbox"/> COMPLETE <input type="checkbox"/> PARTIAL <input type="checkbox"/> FINAL |                       |
| 38. S/R ACCOUNT NUMBER  | 39. S/R VOUCHER NUMBER | 40. PAID BY                        |   |                       |
| 41a. I CERTIFY THIS ACCOUNT IS CORRECT AND PROPER FOR PAYMENT   |                        |                                    | 42a. RECEIVED BY ( <i>Print</i> )   |                       |
| 41b. SIGNATURE AND TITLE OF CERTIFYING OFFICER                  |                        | 41c. DATE                          | 42b. RECEIVED AT ( <i>Location</i> )  |                       |
|   |                        |                                    | 42c. DATE REC'D (YY/MM/DD)  | 42d. TOTAL CONTAINERS |

|   |  |                                    |                     |   |                      |  |  |
|---|--|------------------------------------|---------------------|---|----------------------|--|--|
| <b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>   |  |                                    | 1. CONTRACT ID CODE |   | PAGE OF PAGES<br>1 2 |  |  |
| 2. AMENDMENT/MODIFICATION NO.<br>001  |  | 3. EFFECTIVE DATE<br>See Block 16C |                     | 4. REQUISITION/PURCHASE REQ. NO.<br>PR-OAR-15-01838 |                      | 5. PROJECT NO. (If applicable)   |  |
| 6. ISSUED BY<br>HPOD<br>US Environmental Protection Agency<br>Ariel Rios Building<br>1200 Pennsylvania Avenue, N. W.<br>Mail Code: 3803R<br>Washington DC 20460 |  | CODE                               |                     | 7. ADMINISTERED BY (If other than Item 6)<br>CODE   |                      |  |  |
| 8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)<br>TETRA TECH, INC.<br>3475 E. FOOTHILL BOULEVARD<br>PASADENA CA 911076024          |  |                                    |                     | (X)   |                      | 9A. AMENDMENT OF SOLICITATION NO.  |  |
|   |  |                                    |                     |   |                      | 9B. DATED (SEE ITEM 11)  |  |
|   |  |                                    |                     | X   |                      | 10A. MODIFICATION OF CONTRACT/ORDER NO.<br>EP-BPA-12-H-0029<br>EP-B16H-00084 |  |
|   |  |                                    |                     |   |                      | 10B. DATED (SEE ITEM 13)<br>03/30/2016                                       |  |
| CODE (b)(4)   |  | FACILITY CODE                      |                     |   |                      |  |  |

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers ☐ is extended. ☐ is not extended.  
Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required) Net Decrease: -\$157,171.12  
See Schedule

**13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

|           |   |
|-----------|---|
| CHECK ONE | A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.  |
|           | B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b). |
|           | C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:  |
| X         | D. OTHER (Specify type of modification and authority)<br>Mutual agreement of both parties   |

**E. IMPORTANT:** Contractor ☒ is not. ☐ is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

**14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)**

GSA Contract #: GS-23F-0112L

DUNS Number: (b)(4)

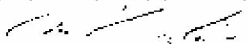
This modification serves to de-obligate \$157,171.12 and end this call. EP-BPA-12-H-0029 is replaced with BPA: EP-BPA-16-H-0018 to recognize the migration to the GSA Consolidated Professional Services Schedule under GS-00F-168CA and to ensure continuity of services under the AgSTAR Program. The period of performance of EP-BPA-16-H-0018 is from 02/08/2016 to 07/15/2017.

The work under this call will be reissued under EP-BPA-16-H-0018

'IGF::CT::IGF'

Continued ...

Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect.

|   |                  |   |                                |
|---|------------------|---|--------------------------------|
| 15A. NAME AND TITLE OF SIGNER (Type or print)                           |                  | 16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)<br>Robert A. Gray  |                                |
| 15B. CONTRACTOR/OFFEROR<br><br>(Signature of person authorized to sign) | 15C. DATE SIGNED | 16B. UNITED STATES OF AMERICA<br><br>(Signature of Contracting Officer) | 16C. DATE SIGNED<br>04/13/2016 |

|                           |   |      |    |
|---------------------------|---|------|----|
| <b>CONTINUATION SHEET</b> | REFERENCE NO. OF DOCUMENT BEING CONTINUED | PAGE | OF |
|                           | EP-BPA-12-H-0029/EP-B16H-00084/001        | 2    | 2  |

NAME OF OFFEROR OR CONTRACTOR  
TETRA TECH, INC.

| ITEM NO.<br>(A) | SUPPLIES/SERVICES<br>(B)  | QUANTITY<br>(C) | UNIT<br>(D) | UNIT PRICE<br>(E) | AMOUNT<br>(F) |
|-----------------|---|-----------------|-------------|-------------------|---------------|
|                 | <p>'IGF::CT::IGF'</p> <p>LIST OF CHANGES:</p> <p>Reason for Modification : Funding Only Action</p> <p>Total Amount for this Modification: -\$157,171.12</p> <p>New Total Amount for this Version: \$0.00</p> <p>New Total Amount for this Award: \$0.00</p> <p>Obligated Amount for this Modification:</p> <p>-\$157,171.12</p> <p>New Total Obligated Amount for this Award: \$0.00</p> <p>Incremental Funded Amount changed: from</p> <p>\$157,171.12 to \$0.00</p> <p>CHANGES FOR LINE ITEM NUMBER: 1</p> <p>Total Amount changed</p> <p>from \$157,171.12 to \$0.00</p> <p>Obligated Amount for this modification:</p> <p>-\$157,171.12</p> <p>Incremental Funded Amount changed from</p> <p>\$157,171.12 to \$0.00</p> <p>CHANGES FOR DELIVERY LOCATION: OAR/OAP/CCD</p> <p>Amount changed from \$157,171.12 to \$0.00</p> <p>CHANGES FOR ACCOUNTING CODE:</p> <p>15-16-B-58F4-101A46-2505-1558FC5787-001</p> <p>Amount changed from \$157,171.12 to \$0.00</p> <p>Delivery: 10/15/2015</p> <p>Delivery Location Code: OAR/OAP/CCD</p> <p>OAR/OAP/CCD</p> <p>US Environmental Protection Agency</p> <p>1200 Pennsylvania Avenue NW</p> <p>Mail Code: 62107J</p> <p>OAP/CCD</p> <p>Washington DC 20460 USA</p> <p>Payment:</p> <p>RTP Finance Center</p> <p>US Environmental Protection Agency</p> <p>RTP-Finance Center (AA216-01)</p> <p>109 TW Alexander Drive</p> <p>www2.epa.gov/financial/contracts</p> <p>Durham NC 27711</p> <p>FOB: Destination</p> <p>Period of Performance: 07/16/2012 to 07/15/2017</p> |                 |             |                   |               |